A NATIONAL GRID ATLAS OF THE IRISH CADDISFLIES (TRICHOPTERA)

James P. O'Connor

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Number 1, 2020

The front cover

Agrypnia obsoleta (map: Figure 70). Photograph © Cathal McNaughton.

Below

Glossosoma conformis (map: Figure 7). Photograph © Cathal C. McNaughton.

Title page

Limnephilus stigma (map: Figure 115). Photograph © Cathal McNaughton.

The back cover

Limnephilus elegans (map: Figure 101). Photograph © Cathal McNaughton.

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OF THE
IRISH CADDISFLIES (TRICHOPTERA)

by

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PLATE 1. *Apatania muliebris* (map: Figure 85). Photograph © Cathal McNaughton.

PLATE 2. Above. A caseless caddis larva (Polycentropodidae). Below. A case bearing caddis larva (Limnephilidae). Both occurred in the same Tipperary stream. Photographs © Sylvia Voss.

Introduction

Since the publication of *A catalogue and atlas of the caddisflies (Trichoptera) of Ireland* (O'Connor, 2015), great progress has been made in mapping the distribution of the Irish caddisflies including the addition of seven species to the island's fauna. New information on habitats and flight-periods has also been established. Details concerning these discoveries will be found in O'Connor and O'Connor (2016, 2017, 2018, 2019a). PDFs of the four papers can be downloaded from the Irish Biogeographical Society's website on the home/PDFs page <http://www.irishbiogeographicalsociety.com/> under item "25 Updates to O'Connor, J. P. (2015) *A catalogue and atlas of the caddisflies (Trichoptera) of Ireland*."

The records from the book and the four papers (Addendums 1-3) have been provided to the National Biodiversity Data Centre as the data set "Caddisflies (Trichoptera) of Ireland" (O'Connor, 2020) <https://maps.biodiversityireland.ie/Dataset/250>. This dataset now contains 156 species and 16067 records. It was last updated on 9 March 2020. The National Biodiversity Data Centre site has done an excellent job of providing superb Irish National Grid or latitude and longitude (World Geodetic System 84) distribution maps for each species.

For any species on the site, the four figure grid references (1km^2) given in O'Connor (2015) and O'Connor and O'Connor (2016, 2017, 2018, 2019a) can be read either on the Irish National Grid option of the Terrestrial Map or on the latitude and longitude option of the Marine Map. By using the live map selection, you can zoom from 10km^2 (Terrestrial Map) or 50km^2 (Marine Map) to the appropriate 1km^2 square. On the Marine maps, you can also view 10km^2 squares on latitude and longitude. Other features which can be shown on the system include counties, biological vice-counties and the Northern Ireland/Republic of Ireland Border. Sites can also be located on the OSI Discovery maps or satellite images of the terrain. The National Biodiversity Data Centre deserves great praise and recognition for their development of such a useful mapping system (Biodiversity Maps) which will be of inestimable value to anyone interested in Irish Trichoptera.

For easy consultation, the opportunity is taken in this publication to provide up to-date summary distribution maps from the data set "Caddisflies (Trichoptera) of Ireland" (O'Connor, 2020). The records are plotted on the Irish National Grid and have been adapted from maps downloaded from the National Biodiversity Data Centre website. The resolution is 10km. A new checklist is given. Information is also provided on flight periods and habitats. After the species' distribution maps, there is an appendix with the recorded counties for each species (see page 171) and an appendix with information on some European distributions (page 189).

This is the first on-line publication of the Irish Biogeographical Society. It is hoped to provide further editions depending on advances in new knowledge of the Irish caddisflies.

James P. O'Connor, 11 May 2020

Acknowledgements

This work would have been impossible without the help and assistance of Liam Lysaght, Director, of the National Biodiversity Data Centre. I am very grateful to him for permission to reproduce the maps and to the Centre's Data Managers Barry O'Neill and Michelle Judge for their help. I wish to thank my wife Mary O'Connor for her support. Many thanks also to Peter Barnard and Ian Wallace for reading an earlier draft of the manuscript and for their constructive comments on it. Caitriona Carlin, Martin Gammell, Cathal McNaughton, Esko Viitanen and Sylvia Voss kindly provided the photographs. Peter Neu generously supplied the figures from DAET. Since the publication of O'Connor (2015), many people have assisted in other diverse ways with the author's work on the Irish caddisflies or provided data. Their contribution is gratefully acknowledged here: Paddy Ashe, Siobhan Atkinson, Aquatic Services Unit of University College Cork, Peter Barnard, Ken Bond, Heather Bothwell, Catherine Bradley, Martine Brennan, John Brophy, Adrian Browne, Michael Browne, William Bryan, Tony Bryant, Joe Caffrey, Pauline Campbell (CEDaR), Caitriona Carlin, Tina Claffey, Lindsey Clarke, Committee of the Gormanston and District Anglers, Mark Costello, Dan de Rosa, Oliver Dixon, Larry Doherty, Toby Edwards, Environmental Protection Agency, Ireland ("Characterisation of Reference Conditions and Testing of Typology of Rivers (RIVTYPE)"), Hugh Feeley, Sharon Flint, Peter Foss, Stephen Foster, Martin Gammell, Carol Gilroy, Jervis Good, Edward Hick, Mark Holmes, Geoff Hunt, Industrial Research and Technology Unit of Northern Ireland (IRTU), Kevin Killeen, Mary Kelly-Quinn, Peter Langton, Hans Malicky, Donal Mangan, Charlie McConaghy, Paul McCullough, Ciaran McDonald, Philip McErlean, Damian McFerran, Cathal McNaughton, Ryan Mitchell, Rodney Monteith, Tom Moore, Alan Morton, Declan Murray, National Biodiversity Network (NBN Atlas Northern Ireland), Peter Neu, Art Niven, Myles Nolan, Northern Ireland Environment Agency Catherine O'Connell (Irish Peatland Conservation Council), Helen O'Connor, Kevin O'Connor, Aideen O'Doherty, Aidan O'Hanlon, Colin Plant, Adrian Riley, Ted (Edward) Rolston, Declan Savage, Martin Speight, staff of CEDaR, staff of the Lough Boora Discovery Park, Liam Stenston, Pascal Sweeney, Pamela Thomlinson, Leon van der Noll, Paolo Viscardi, Sylvia Voss, Ian Wallace, Alan Walshe and Nicky Walshe.

PLATE 3. *Limnephilus borealis* (map: Figure 97). Photograph © Cathal McNaughton.

A revised checklist of the Irish caddisflies (Trichoptera) and distribution maps

This checklist updates the one in O'Connor (2015) but that book should be consulted for synonyms and information on species deleted from the Irish list due to misidentifications etc. A total of 156 species are now known from Ireland. Those added to the Irish list since O'Connor (2015) are indicated by an asterisk *.

The number opposite each species' name corresponds to the figure number of its distribution map. For certain species, the names used by the National Biodiversity Data Centre differ from the present checklist and these are given in square brackets for ease of reference.

Family RHYACOPHILIDAE

1. *Rhyacophila dorsalis* (Curtis, 1834)
2. *Rhyacophila munda* McLachlan, 1862

Family GLOSSOSOMATIDAE

3. *Agapetus delicatulus* McLachlan, 1884
4. *Agapetus fuscipes* Curtis, 1834
5. *Agapetus ochripes* Curtis, 1834
6. *Glossosoma boltoni* Curtis, 1834
7. *Glossosoma conformis* Neboiss, 1963
   [National Biodiversity Data Centre: *Glossosoma conforme* Neboiss, 1963]

Family HYDROPTILIDAE

8. *Agraylea multipunctata* Curtis, 1834
9. *Agraylea sexmaculata* Curtis, 1834
10. *Allotrichia pallicornis* (Eaton, 1873)
11. *Hydroptila angulata* Mosely, 1922
12. *Hydroptila cornuta* Mosley, 1922
13. *Hydroptila forcipata* (Eaton, 1873)
14. **Hydroptila lotensis* Mosely, 1930
    Added by O'Connor and O'Connor (2019b)
15. *Hydroptila martini* Marshall, 1977
16. *Hydroptila occulta* (Eaton, 1873)
17. *Hydroptila pulchricornis* Pictet, 1834
18. *Hydroptila simulans* Mosely, 1920
19. *Hydroptila sparsa* Curtis, 1834
20. *Hydroptila tigurina* Ris, 1894
21. *Hydroptila tineoides* Dalman, 1819

22. *Hydroptila valesiaca* Schmid, 1947
23. **Hydroptila vectis* Curtis, 1834
    Added by O'Connor (2019a)
24. *Ithytrichia clavata* Morton, 1905
25. *Ithytrichia lamellaris* Eaton, 1873
26. *Orthotrichia angustella* (McLachlan, 1865)
27. *Orthotrichia costalis* (Curtis, 1834)
28. *Oxyethira falcata* Morton, 1893
29. *Oxyethira flavicornis* (Pictet, 1834)
30. *Oxyethira frici* Klapálek, 1891
31. **Oxyethira mirabilis* Morton, 1904
    Added by O'Connor (2019b)
32. *Oxyethira sagittifera* Ris, 1897
33. *Oxyethira simplex* Ris, 1897
34. *Oxyethira tristella* Klapálek, 1895
35. *Tricholeiochiton fagesii* (Guinard, 1879)

Family PHILOPOTAMIDAE

36. *Chimarra marginata* (Linnaeus, 1761)
37. *Philopotamus montanus* (Donovan, 1813)
38. *Wormaldia mediana* McLachlan, 1878
39. *Wormaldia occipitalis* (Pictet, 1834)
40. *Wormaldia subnigra* McLachlan, 1865

Family ECNOMIDAE

41. *Ecnomus tenellus* (Rambur, 1842)

Family POLYCENTROPODIDAE

42. *Cyrnus flavidus* McLachlan, 1864
43. *Cyrnus insolutus* McLachlan, 1878
44. *Cyrnus trimaculatus* (Curtis, 1834)
45. *Holocentropus dubius* (Rambur, 1842)
46. *Holocentropus picicornis* (Stephens, 1836)
47. *Neureclipsis bimaculata* (Linnaeus, 1758)
48. *Plectrocnemia conspersa* (Curtis, 1834)
49. *Plectrocnemia geniculata* McLachlan, 1871
50. *Polycentropus flavomaculatus* (Pictet, 1834)

51. *Polycentropus irroratus* (Curtis, 1835)
52. *Polycentropus kingi* McLachlan, 1881

Family PSYCHOMYIIDAE

53. *Lype phaeopa* (Stephens, 1836)
54. *Lype reducta* (Hagen, 1868)
55. *Psychomyia fragilis* (Pictet, 1834)
    [National Biodiversity Data Centre: *Metalype fragilis* (Pictet, 1834)]
56. *Psychomyia pusilla* (Fabricius, 1781)
57. *Tinodes dives* (Pictet, 1834)
58. *Tinodes maclachlani* Kimmins, 1966
59. *Tinodes maculicornis* (Pictet, 1834)
60. *Tinodes unicolor* (Pictet, 1834)
61. *Tinodes waeneri* (Linnaeus, 1758)

Family HYDROPSYCHIDAE

62. *Cheumatopsyche lepida* (Pictet, 1834)
63. *Diplectrona felix* McLachlan, 1878
64. *Hydropsyche angustipennis* (Curtis, 1834)
65. *Hydropsyche contubernalis* McLachlan, 1865
66. **Hydropsyche fulvipes* (Curtis, 1834)
    Added by O'Connor, O'Connor and Gammell (2019)
67. *Hydropsyche instabilis* (Curtis, 1834)
68. *Hydropsyche pellucidula* (Curtis, 1834)
69. *Hydropsyche siltalai* Döhler, 1963

Family PHRYGANEIDAE

70. *Agrypnia obsoleta* (Hagen, 1864)
71. *Agrypnia pagetana* Curtis, 1835
72. *Agrypnia varia* (Fabricius, 1793)
73. **Hagenella clathrata* (Kolenati, 1848)
    [National Biodiversity Data Centre: Window Winged Sedge (*Hagenella clathrata*)]
    Added by Gammell *et al.* (2018)
74. *Oligotricha striata* (Linnaeus, 1758)
75. *Phryganea bipunctata* Retzius, 1783
76. *Phryganea grandis* Linnaeus, 1758

77. **Trichostegia minor* (Curtis, 1834)
    Added by O'Connor and McNaughton (2017a)

Family GOERIDAE

78. *Goera pilosa* (Fabricius, 1775)
79. *Silo nigricornis* (Pictet, 1834)
80. *Silo pallipes* (Fabricius, 1781)

Family LEPIDOSTOMATIDAE

81. *Crunoecia irrorata* (Curtis, 1834)
82. *Lepidostoma basale* (Kolenati, 1848)
    [National Biodiversity Data Centre: *Lasiocephala basalis* (Kolenati, 1848)]
83. *Lepidostoma hirtum* (Fabricius, 1775)

Family APATANIIDAE

84. *Apatania auricula* (Forsslund, 1930)
85. *Apatania muliebris* McLachlan, 1866
86. *Apatania wallengreni* McLachlan, 1871

Family LIMNEPHILIDAE

87. *Drusus annulatus* (Stephens, 1837)
88. *Ecclisopteryx dalecarlica* Kolenati, 1848
89. *Chaetopteryx villosa* (Fabricius, 1798)
90. *Anabolia brevipennis* (Curtis, 1834)
    [National Biodiversity Data Centre: *Phacopteryx brevipennis* (Curtis, 1834)]
91. *Anabolia nervosa* (Curtis, 1834)
92. *Glyphotaelius pellucidus* (Retzius, 1783)
93. *Grammotaulius nigropunctatus* (Retzius, 1783)
94. *Limnephilus affinis* Curtis, 1834
95. *Limnephilus auricula* Curtis, 1834
96. *Limnephilus binotatus* Curtis, 1834
97. **Limnephilus borealis* (Zetterstedt, 1840)
    Added by O'Connor and McNaughton (2017b)
98. *Limnephilus centralis* Curtis, 1834
99. *Limnephilus coenosus* Curtis, 1834
100. *Limnephilus decipiens* (Kolenati, 1848)
101. *Limnephilus elegans* Curtis, 1834

102. *Limnephilus flavicornis* (Fabricius, 1787)
103. *Limnephilus fuscinervis* (Zetterstedt, 1840)
104. *Limnephilus griseus* (Linnaeus, 1758)
105. *Limnephilus hirsutus* (Pictet, 1834)
106. *Limnephilus ignavus* Mclachlan, 1865
107. *Limnephilus incisus* Curtis, 1834
108. *Limnephilus lunatus* Curtis, 1834
109. *Limnephilus luridus* Curtis, 1834
110. *Limnephilus marmoratus* Curtis, 1834
111. *Limnephilus nigriceps* (Zetterstedt, 1840)
112. *Limnephilus pati* O'Connor, 1980
113. *Limnephilus rhombicus* (Linnaeus, 1758)
114. *Limnephilus sparsus* Curtis, 1834
115. *Limnephilus stigma* Curtis, 1834
116. *Limnephilus tauricus* Schmid, 1964
117. *Limnephilus vittatus* (Fabricius, 1798)
118. *Halesus digitatus* (Schrank, 1781)
119. *Halesus radiatus* (Curtis, 1834)
120. *Hydatophylax infumatus* (McLachlan, 1865)
121. *Mesophylax impunctatus* McLachlan, 1884
122. *Micropterna lateralis* (Stephens, 1837)
123. *Micropterna sequax* McLachlan, 1875
124. *Potamophylax cingulatus* (Stephens, 1837)
125. *Potamophylax latipennis* (Curtis, 1834)
126. *Stenophylax permistus* McLachlan, 1895

Family SERICOSTOMATIDAE

127. *Sericostoma personatum* (Spence, 1826)

Family BERAEIDAE

128. *Beraea maurus* (Curtis, 1834)
129. *Beraea pullata* (Curtis, 1834)
130. *Beraeodes minutus* (Linnaeus, 1761)

Family ODONTOCERIDAE

131. *Odontocerum albicorne* (Scopoli, 1763)

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Family MOLANNIDAE

132. *Molanna albicans* (Zetterstedt, 1840)

Family LEPTOCERIDAE

133. *Adicella reducta* (McLachlan, 1865)
134. *Athripsodes albifrons* (Linnaeus, 1758)
135. *Athripsodes aterrimus* (Stephens, 1836)
136. *Athripsodes bilineatus* (Linnaeus, 1758)
137. *Athripsodes cinereus* (Curtis, 1834)
138. *Athripsodes commutatus* (Rostock, 1874)
139. *Ceraclea albimacula* (Rambur, 1842)
140. *Ceraclea annulicornis* (Stephens, 1836)
141. *Ceraclea dissimilis* (Stephens, 1836)
142. *Ceraclea fulva* (Rambur, 1842)
143. *Ceraclea nigronervosa* (Retzius, 1783)
144. *Ceraclea senilis* (Burmeister, 1839)
145. *Erotesis baltica* McLachlan, 1877
146. *Leptocerus tineiformis* Curtis, 1834
147. *Mystacides azurea* (Linnaeus, 1761)
148. *Mystacides longicornis* (Linnaeus, 1758)
149. *Oecetis furva* (Rambur, 1834)
150. *Oecetis lacustris* (Pictet, 1834)
151. *Oecetis notata* (Rambur, 1842)
152. *Oecetis ochracea* (Curtis, 1825)
153. *Oecetis testacea* (Curtis, 1825)
154. *Setodes argentipunctellus* McLachlan, 1877
155. *Triaenodes bicolor* (Curtis, 1834)
156. *Ylodes reuteri* (McLachlan, 1880)

Flight periods

In the flight periods given with the maps, when adults have been collected outside the normal Irish flight period, the relevant months are given in brackets. For some Irish rare species, British flight periods are included from Barnard and Ross (2012) or from Ian Wallace (pers. comm.).

PLATE 4. Above. *Neureclipsis bimaculata* (map: Figure 47). Below. *Polycentropus irroratus* (map: Figure 51). Photographs © Sylvia Voss.

PLATE 5. Above. *Chaetopteryx villosa* (map: Figure 89). Photograph © Cathal McNaughton. Below. *Limnephilus sparsus* (map: Figure 114). Photograph © Sylvia Voss.

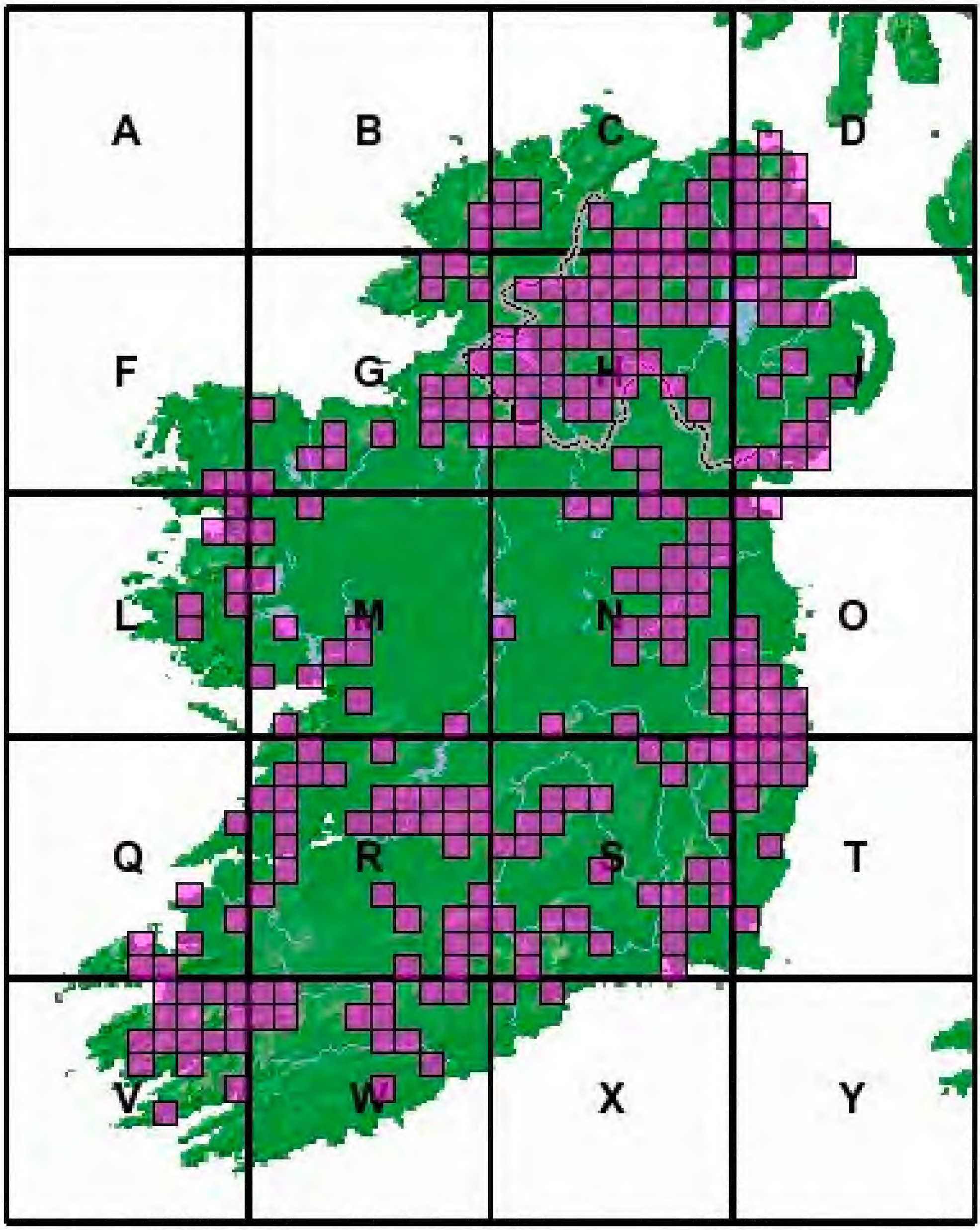

FIGURE 1. The known 10km distribution of *Rhyacophila dorsalis* (Curtis, 1834).
Habitat: flowing waters ranging from streams to rivers but with a stony substratum.
Flight period: April – October.

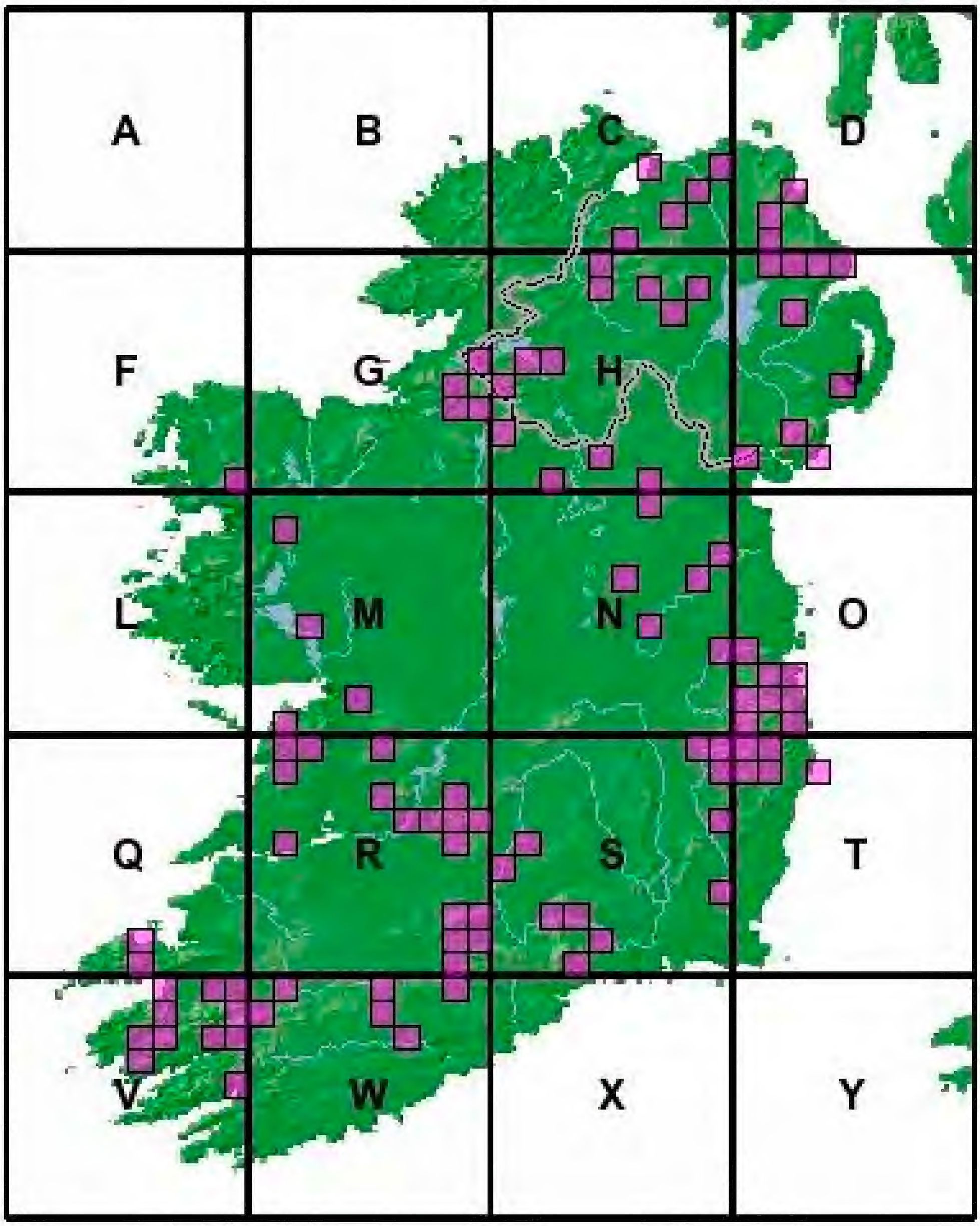

FIGURE 2. The known 10km distribution of *Rhyacophila munda* McLachlan, 1862.
Habitat: flowing waters ranging from streams to rivers but with a stony substratum.
Flight period: (May), July – November.

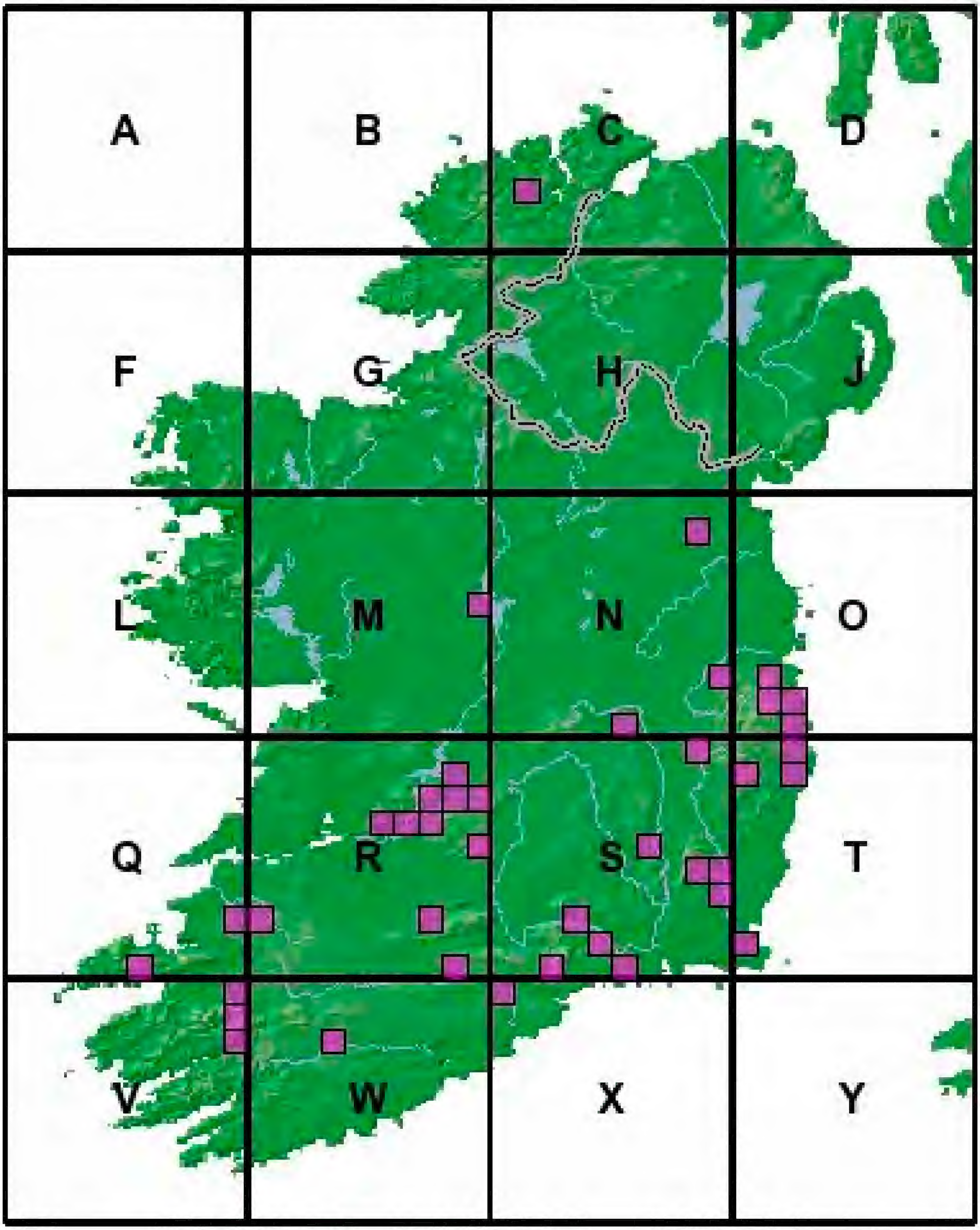

FIGURE 3. The known 10km distribution of *Agapetus delicatulus* McLachlan, 1884.
Habitat: flowing waters ranging from streams to rivers but with a stony substratum.
Flight period: June – August.

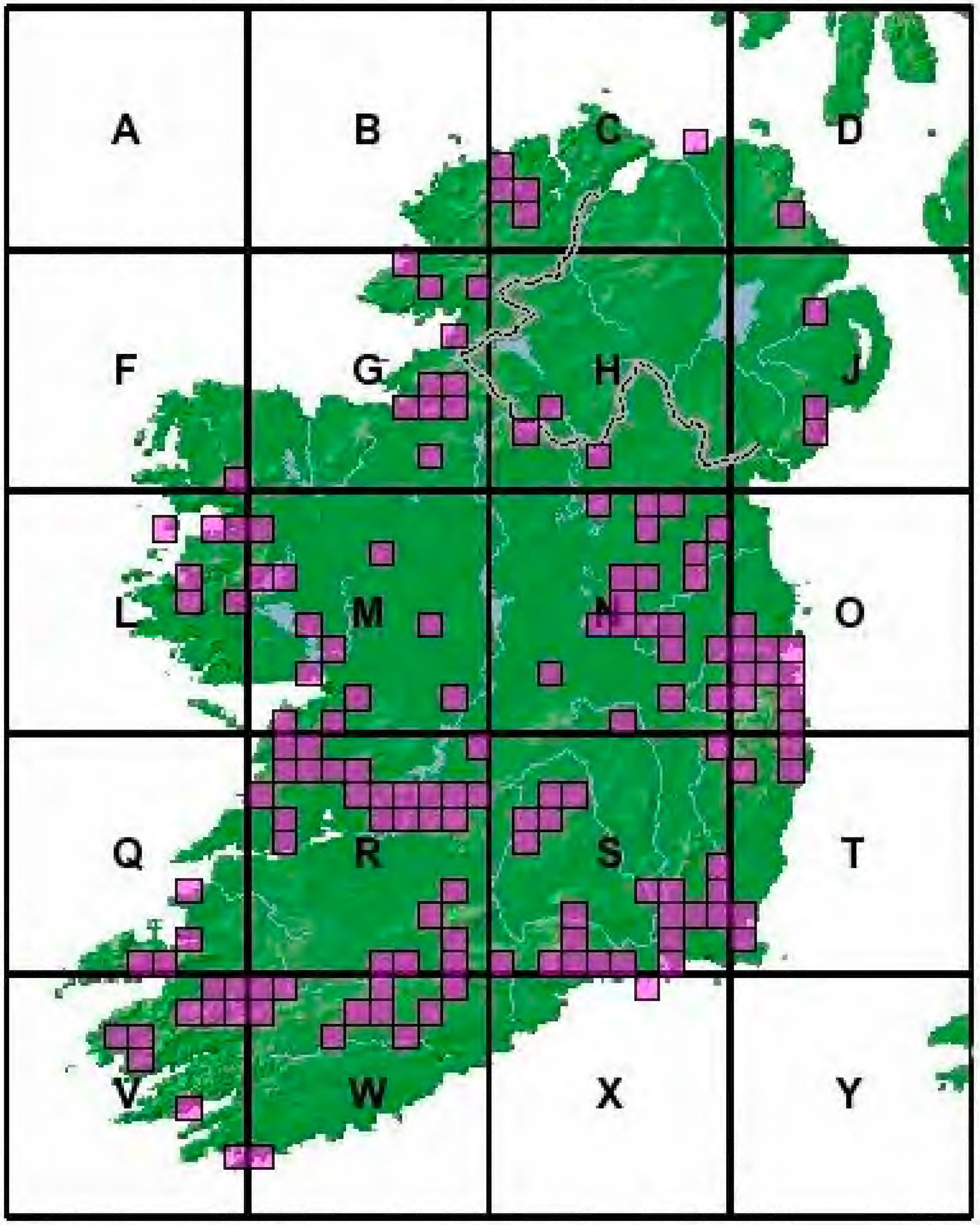

FIGURE 4. The known 10km distribution of *Agapetus fuscipes* Curtis, 1834.
Habitat: flowing waters ranging from streams to rivers and on exposed lake shores but with a stony substratum. **Flight period:** April – October, (December).

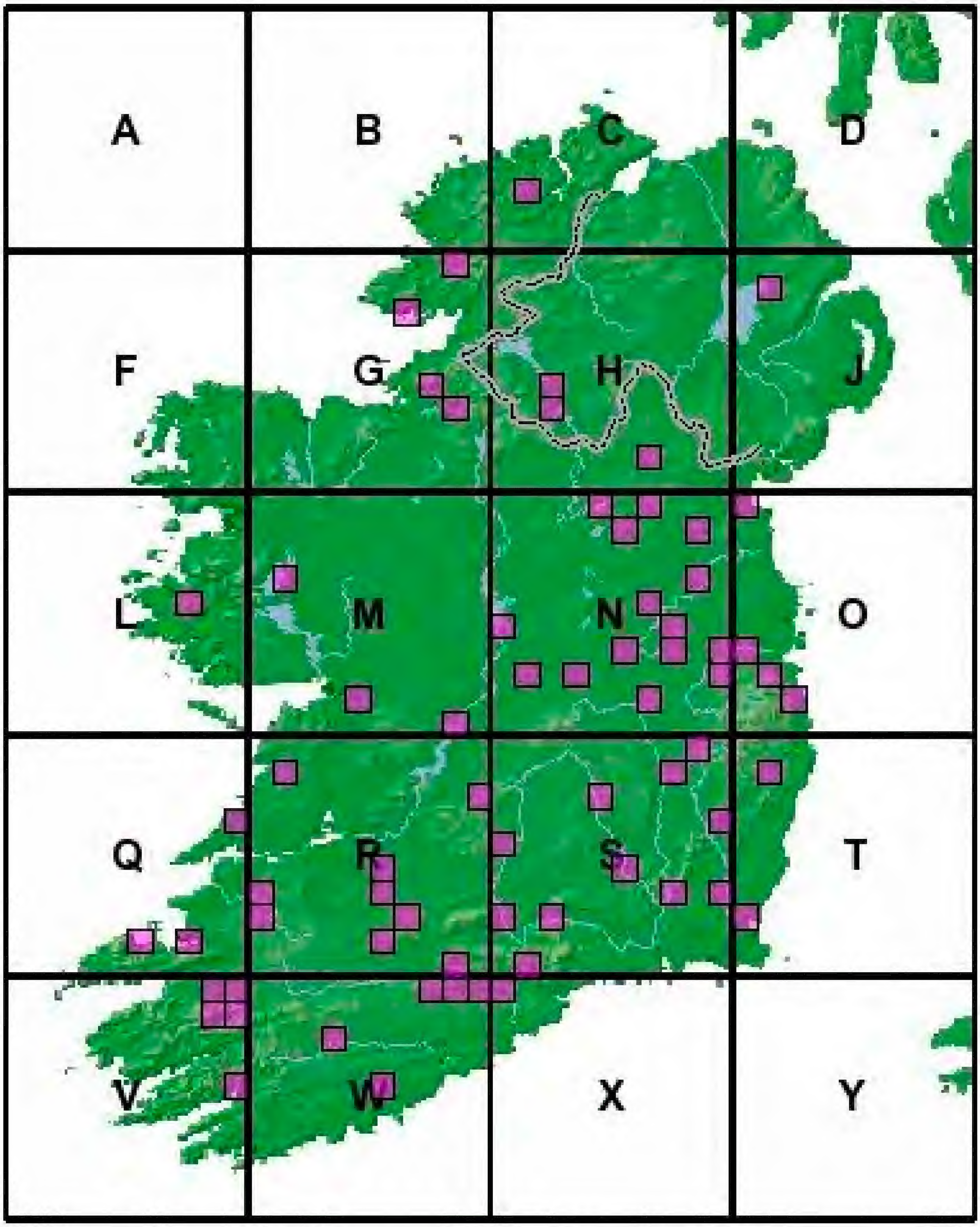

FIGURE 5. The known 10km distribution of *Agapetus ochripes* Curtis, 1834.
Habitat: flowing waters ranging from streams to rivers but with a stony substratum.
Flight period: April – September.

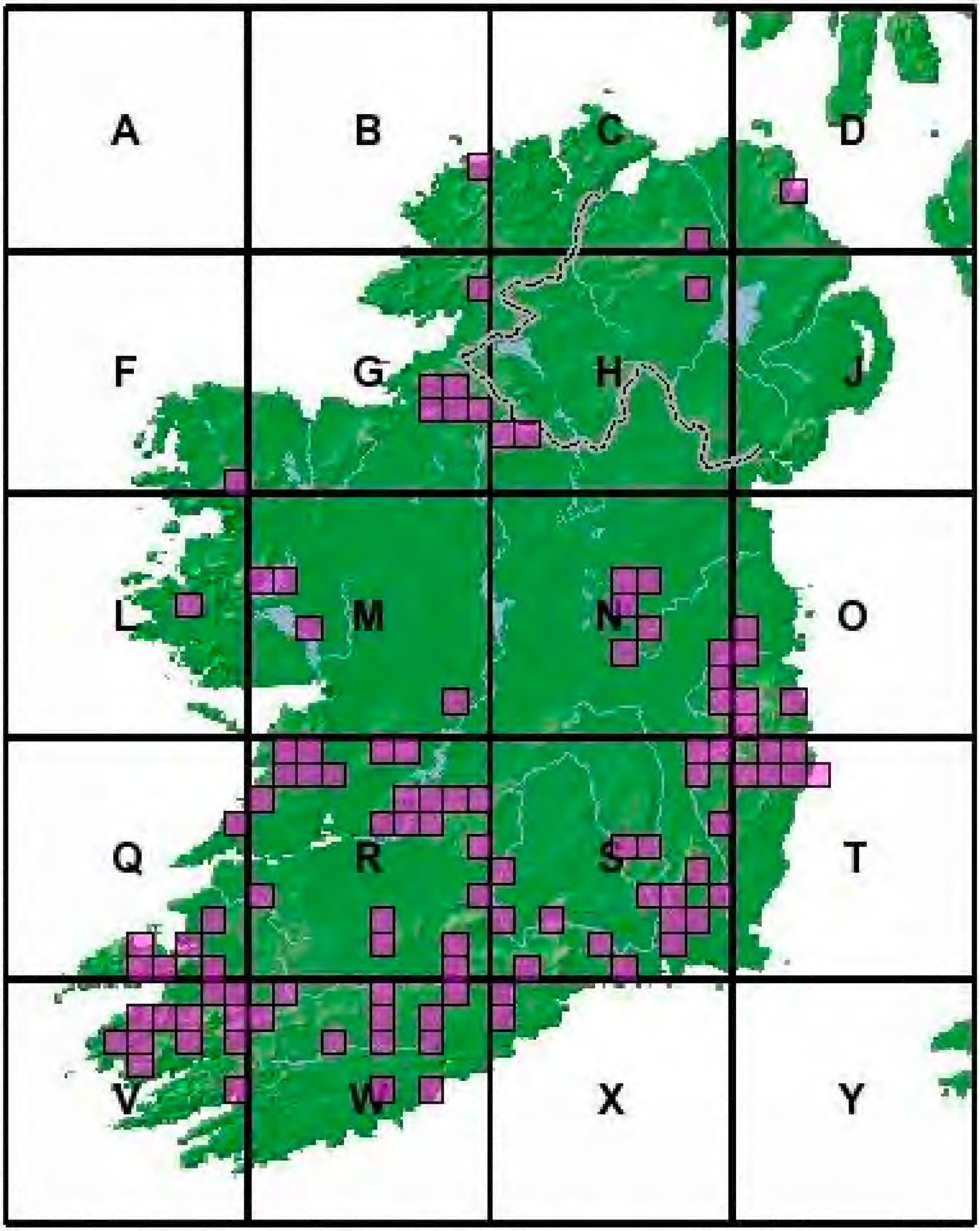

FIGURE 6. The known 10km distribution of *Glossosoma boltoni* Curtis, 1834.
Habitat: flowing waters ranging from streams to rivers but with a stony substratum.
Flight period: February – October, (December).

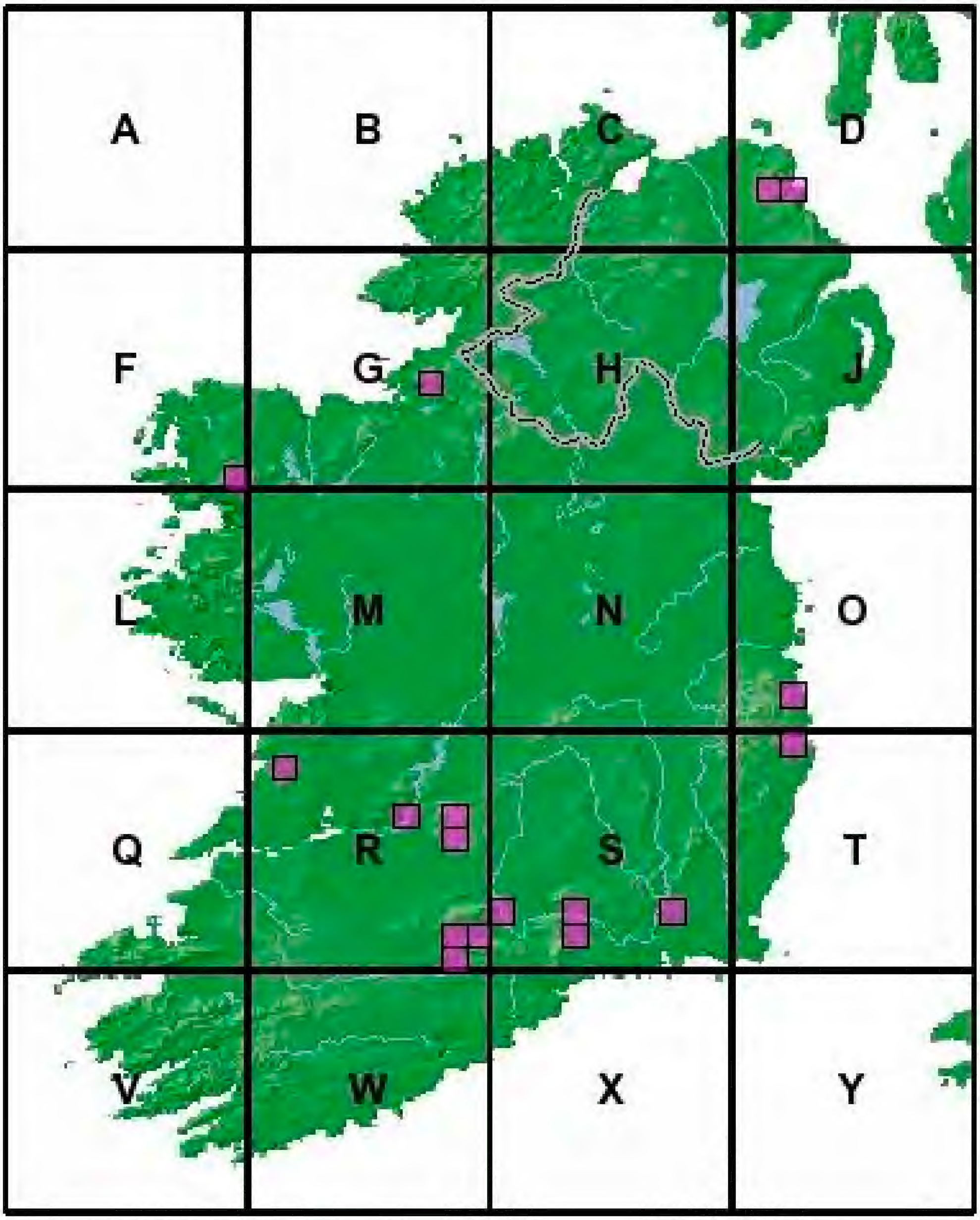

FIGURE 7. The known 10km distribution of *Glossosoma conformis* Neboiss, 1963.
Habitat: flowing waters ranging from streams to rivers but with a stony substratum.
Flight period: May – August.

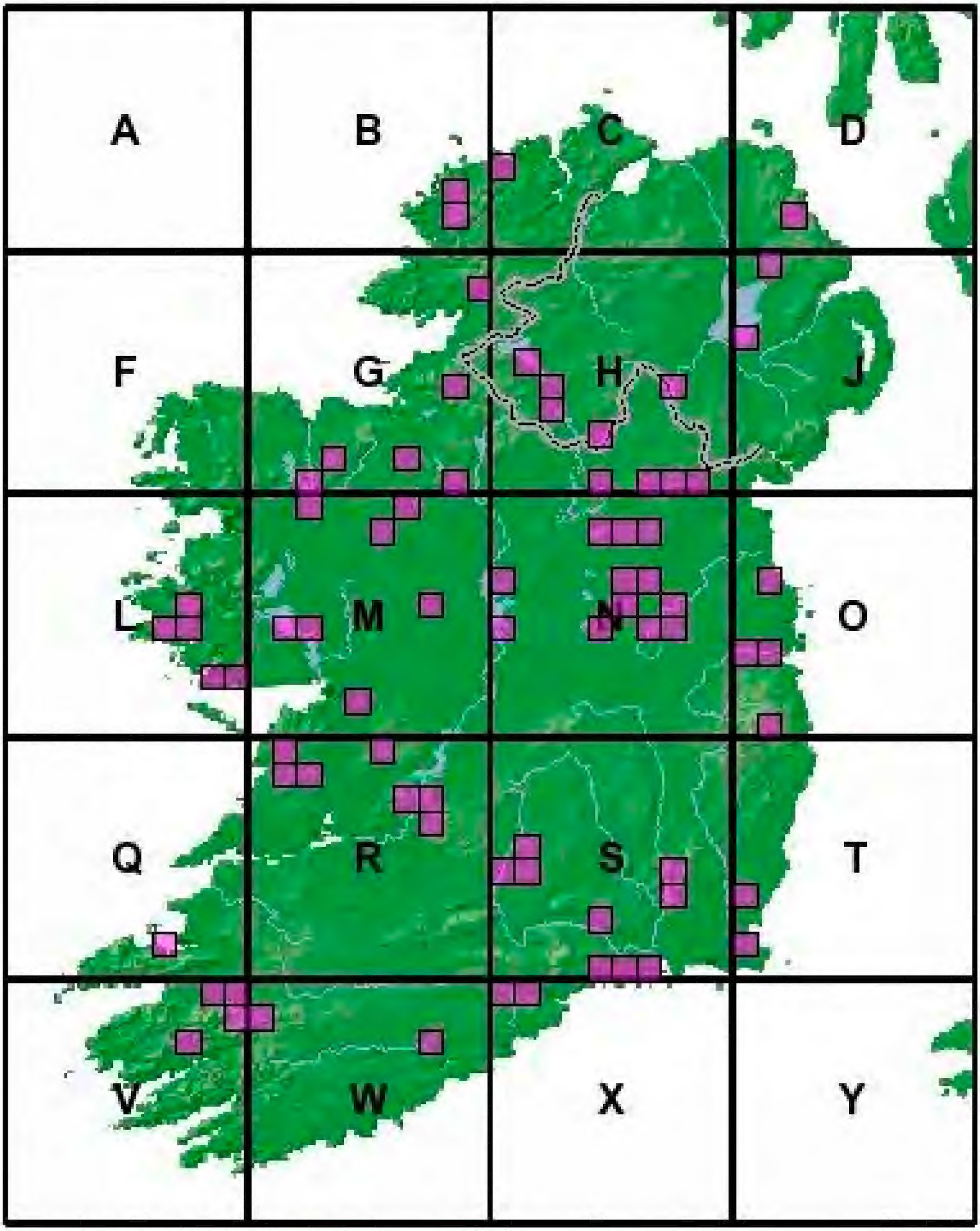

FIGURE 8. The known 10km distribution of *Agraylea multipunctata* Curtis, 1834.
Habitat: canals, lakes, ponds and slow flowing sections of rivers.
Flight period: April – October.

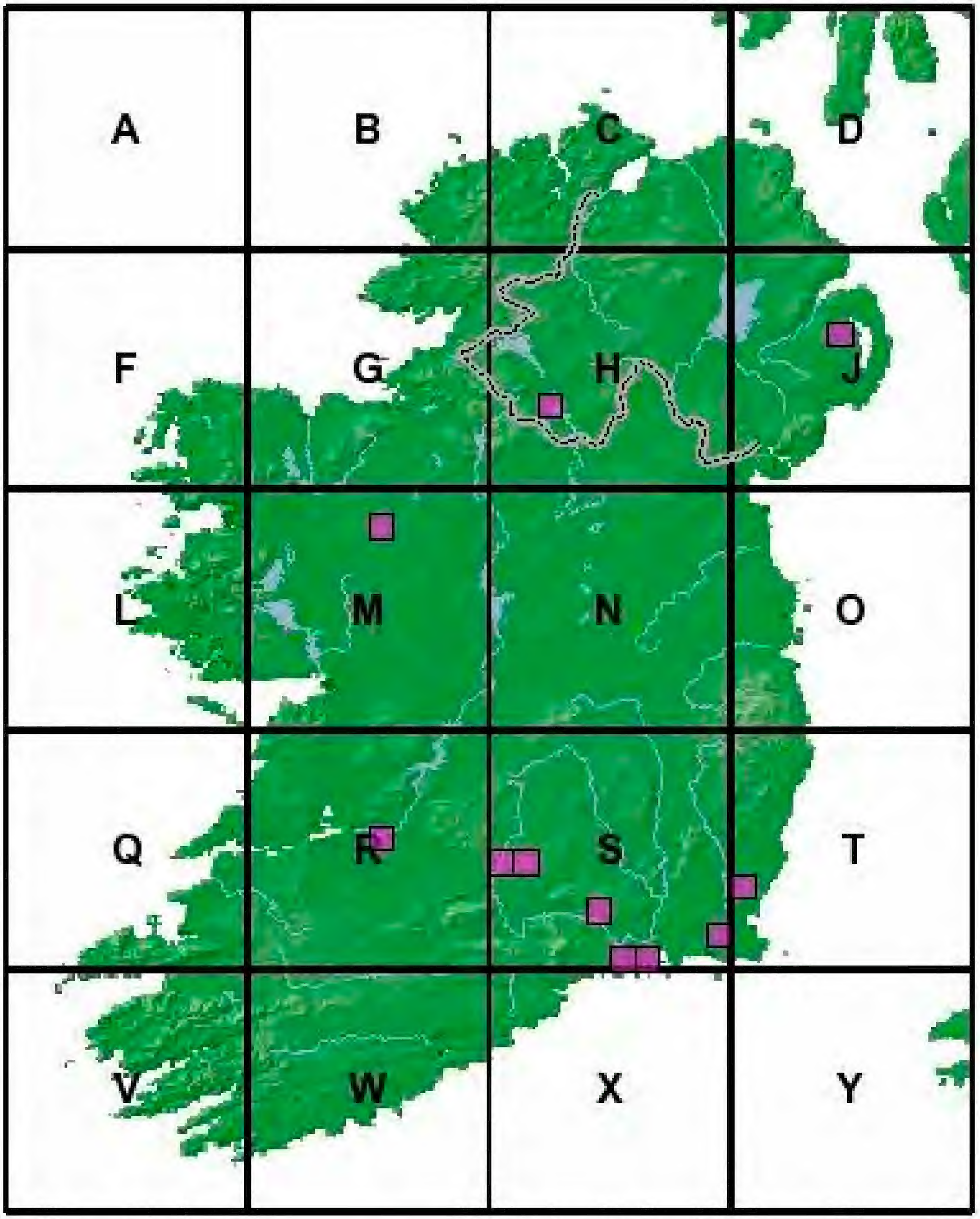

FIGURE 9. The known 10km distribution of *Agraylea sexmaculata* Curtis, 1834.
Habitat: ponds and lakes.
Flight period: June – August.

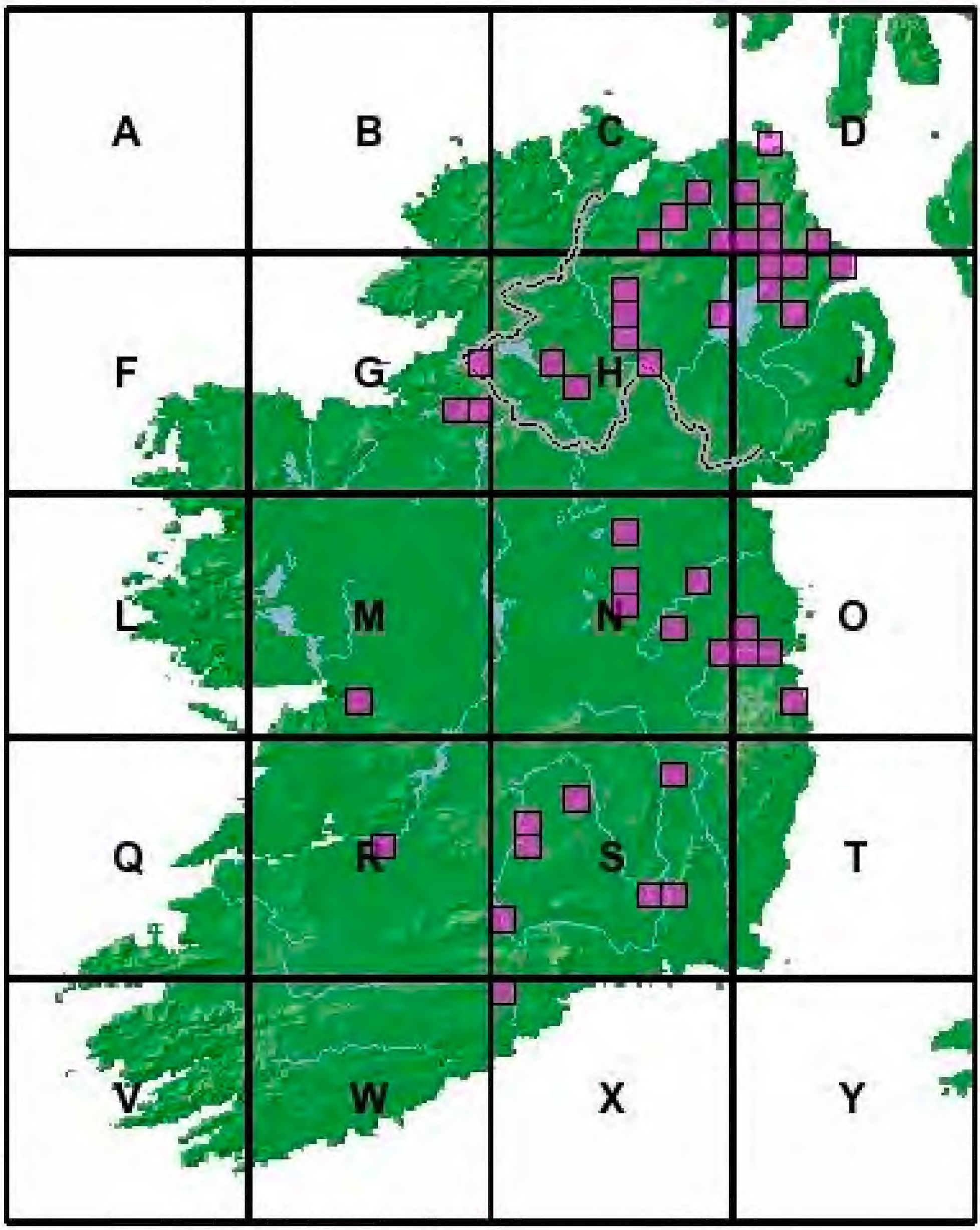

FIGURE 10. The known 10km distribution of *Allotrichia pallicornis* (Eaton, 1873). **Habitat:** flowing waters ranging from streams to rivers, often associated with the algal felt on stones and boulders. **Flight period:** May – August.

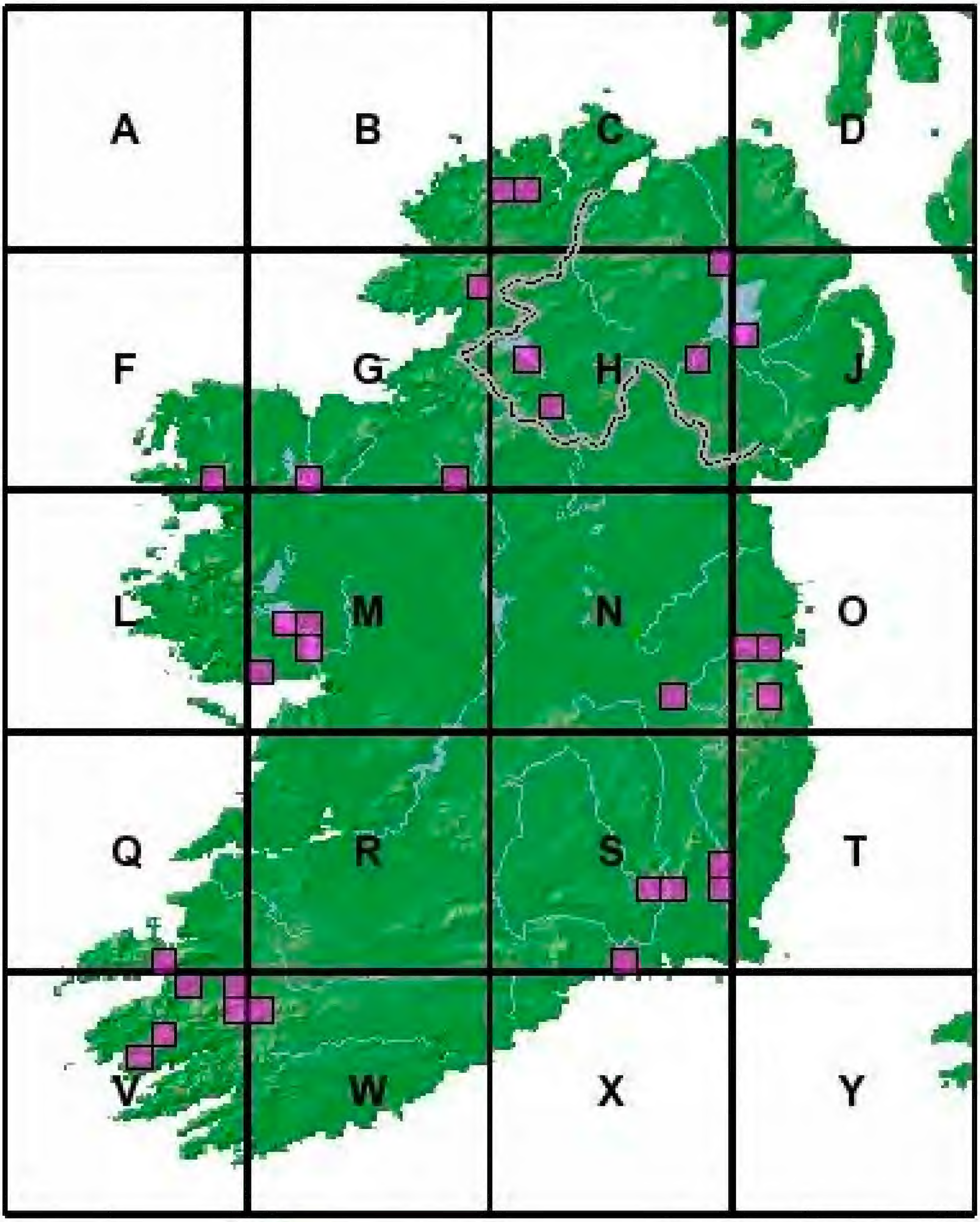

FIGURE 11. The known 10km distribution of *Hydroptila angulata* Mosely, 1922.
Habitat: lakes and flowing waters including streams in fens.
Flight period: May – October.

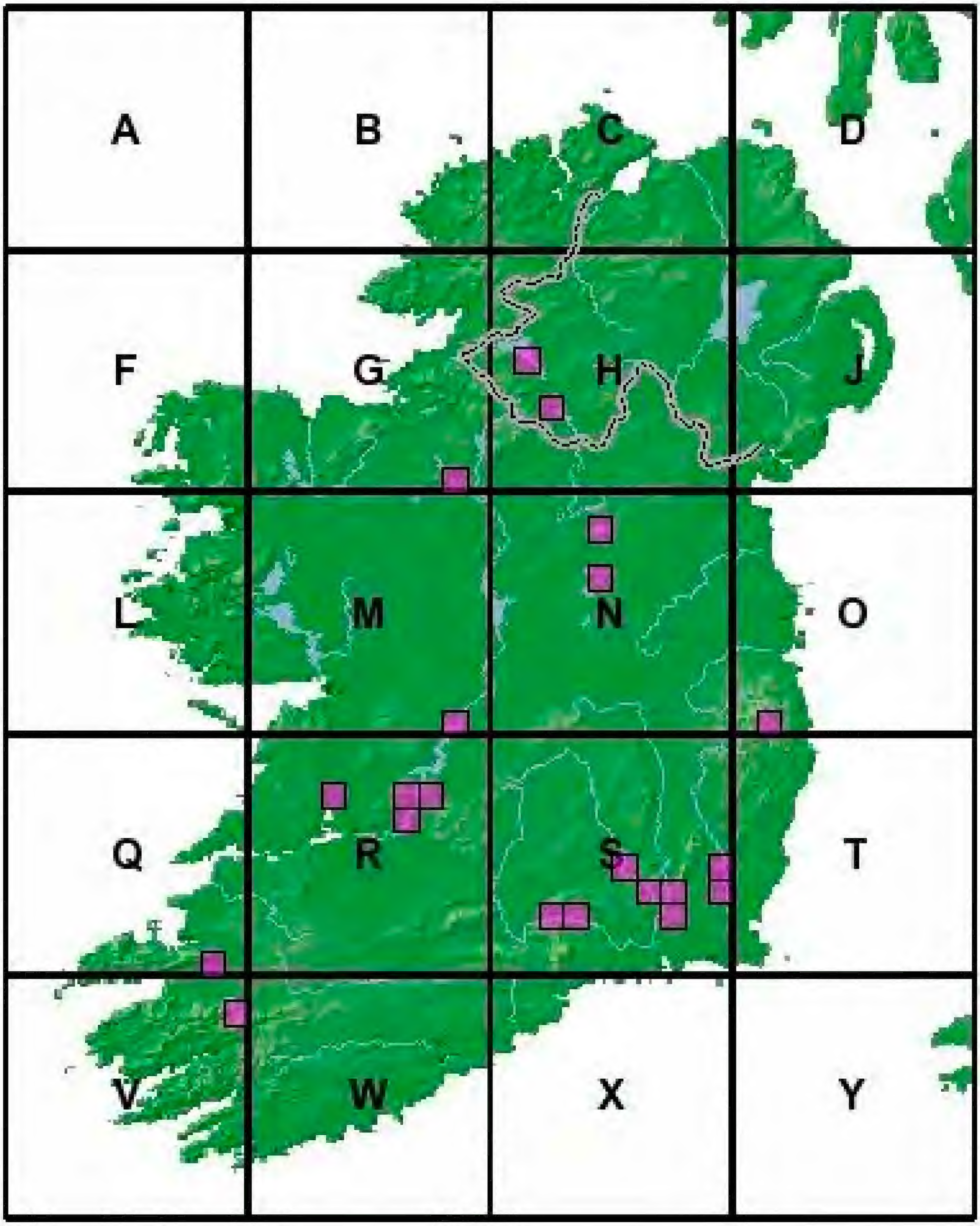

FIGURE 12. The known 10km distribution of *Hydroptila cornuta* Mosley, 1922.
Habitat: lakes, streams and rivers.
Flight period: May – September.

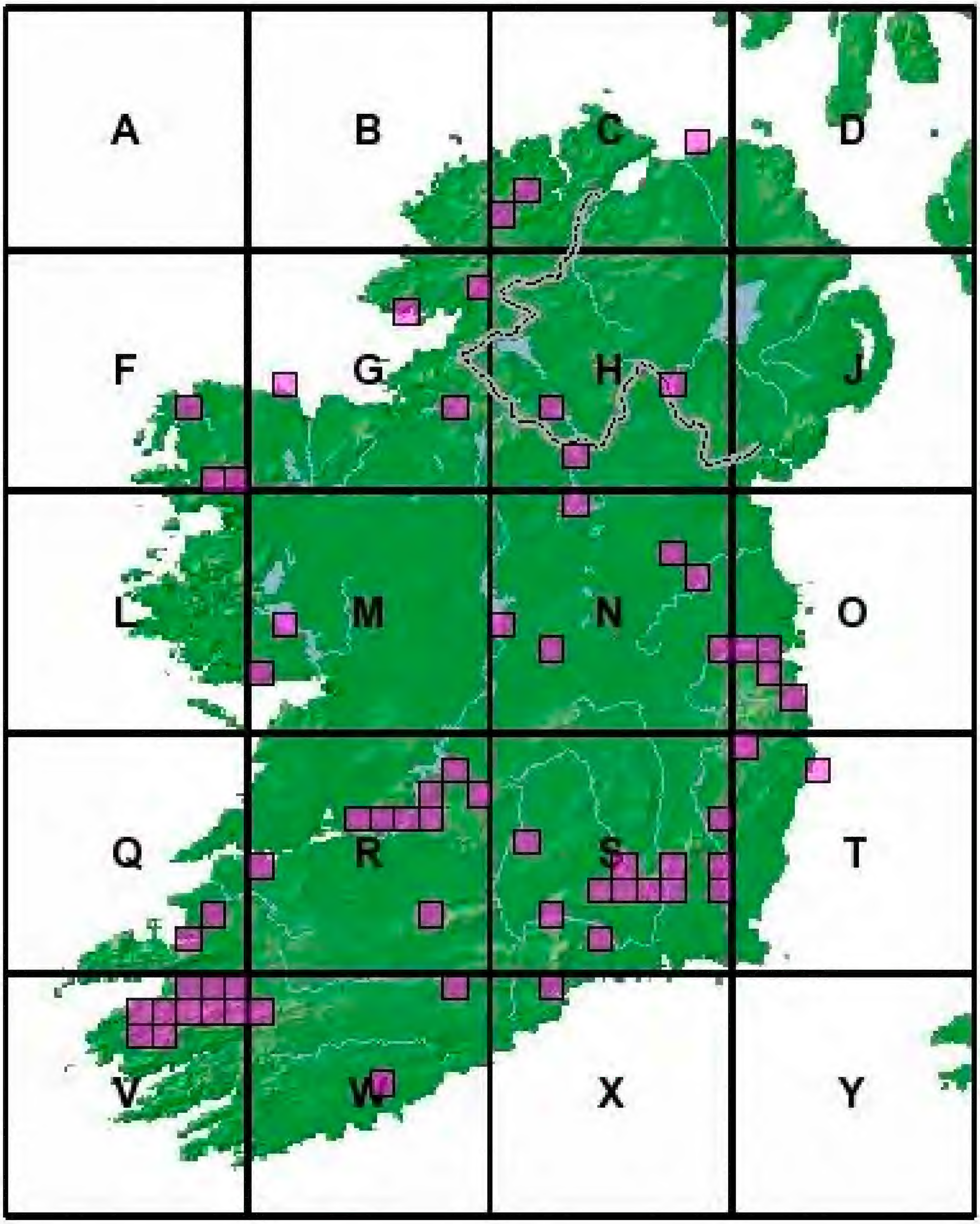

FIGURE 13. The known 10km distribution of *Hydroptila forcipata* (Eaton, 1873).
Habitat: flowing waters ranging from streams to rivers.
Flight period: April – October.

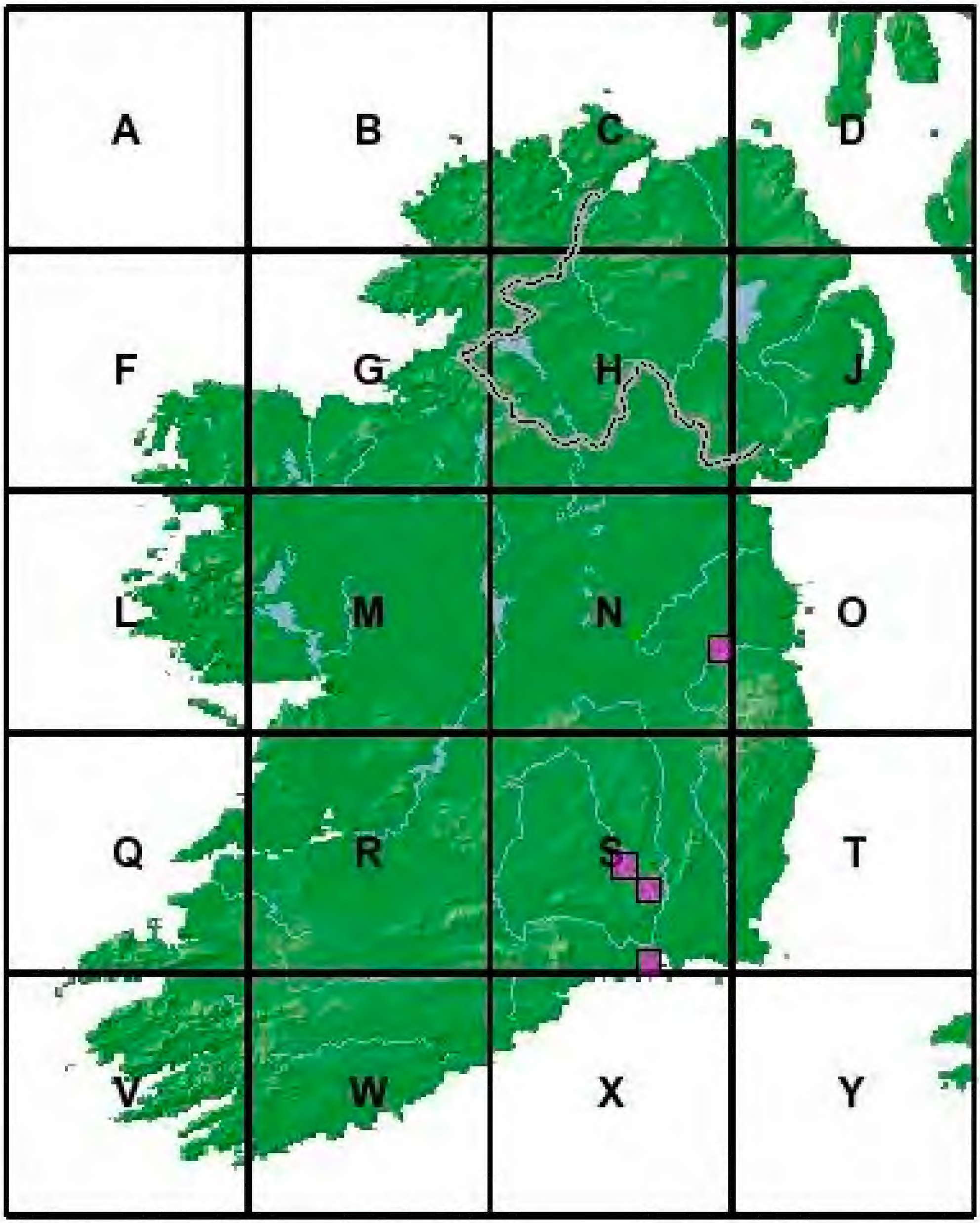

FIGURE 14. The known 10km distribution of *Hydroptila lotensis* Mosely, 1930.
Habitat: rivers. It may also live in marshes in Ireland.
Flight period: June – August.

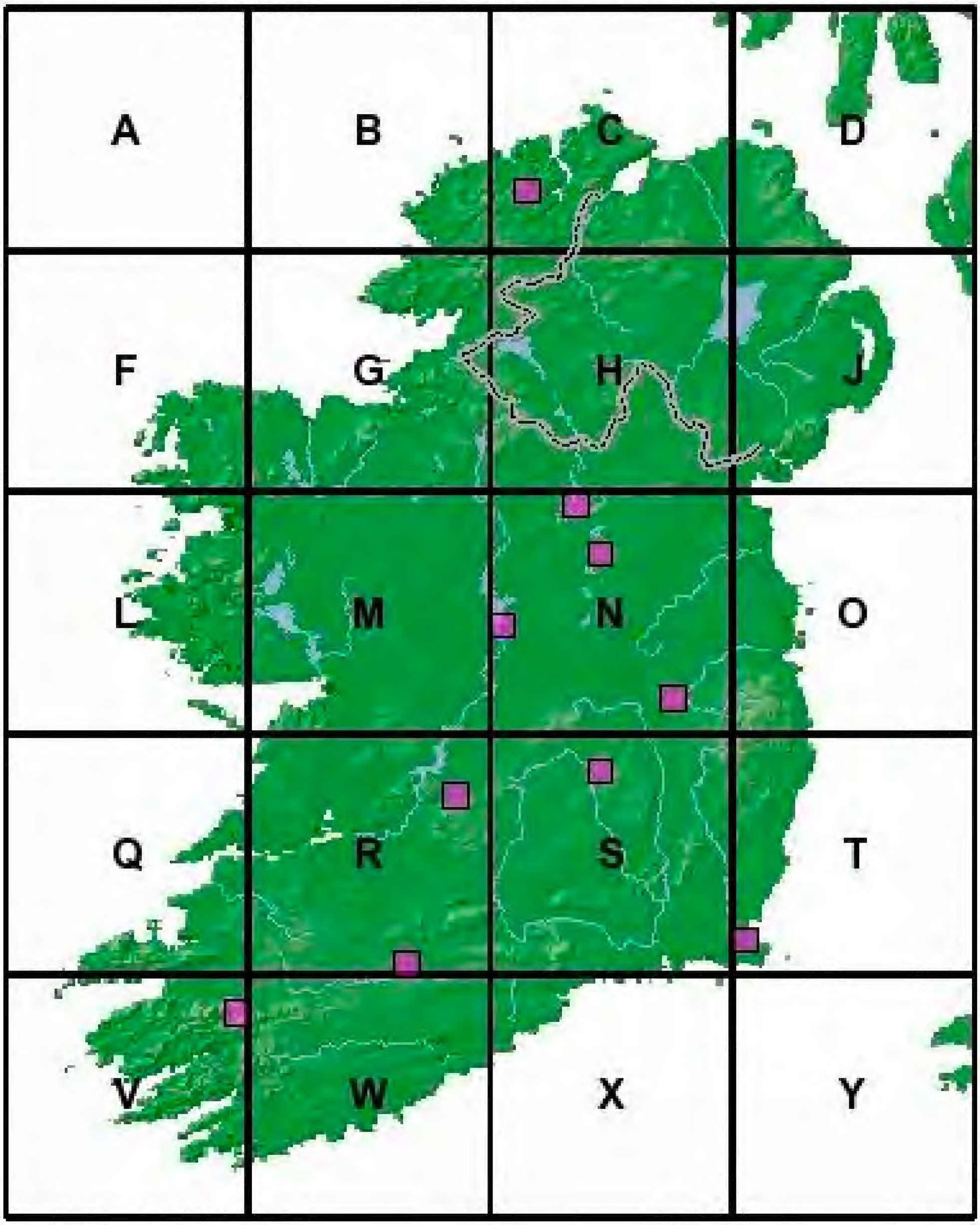

FIGURE 15. The known 10km distribution of *Hydroptila martini* Marshall, 1977.
Habitat: flowing waters ranging from streams and rivers to canals.
Flight period: June – September.

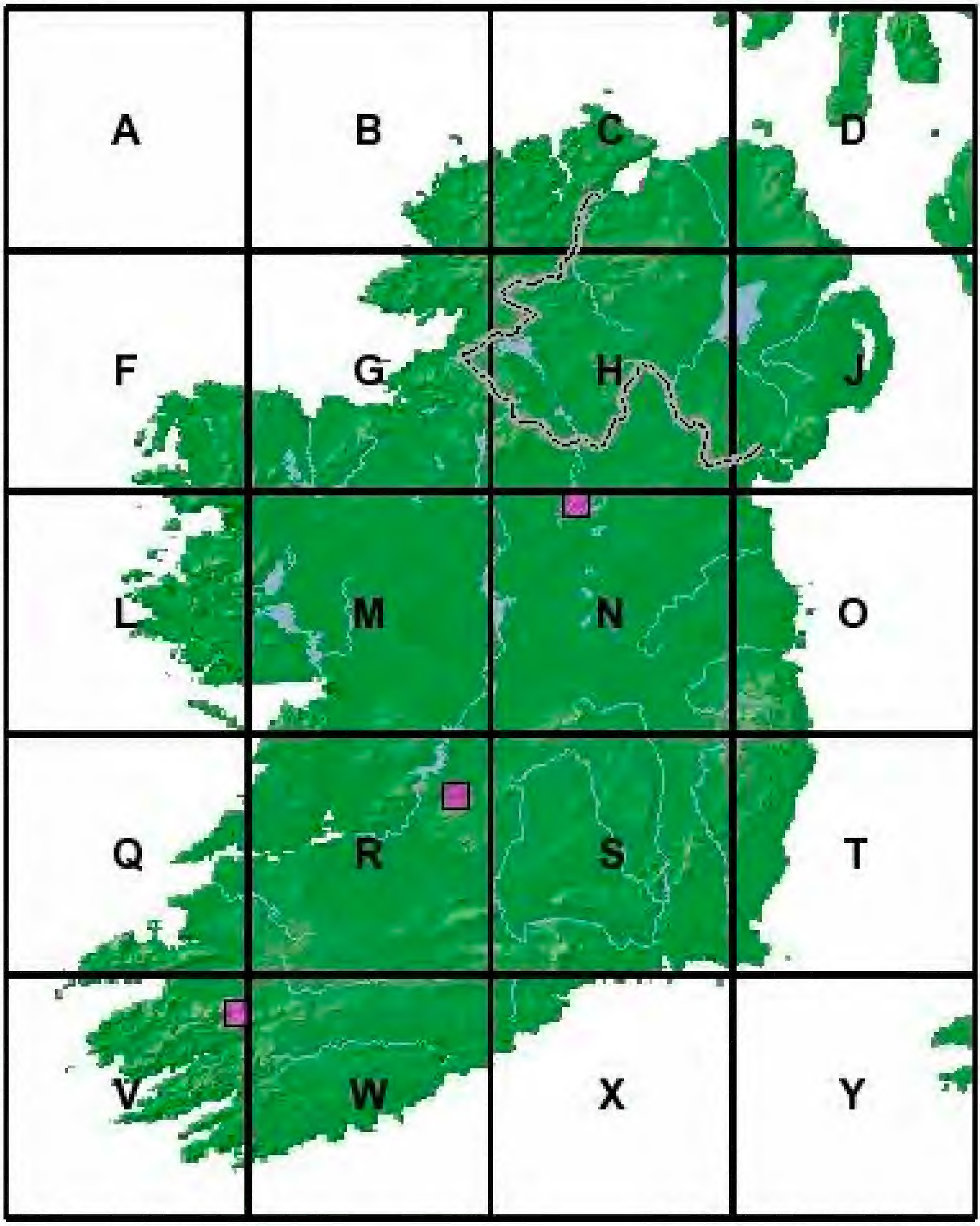

FIGURE 16. The known 10km distribution of *Hydroptila occulta* (Eaton, 1873).
Habitat: rivers and streams.
Flight period: June – July.

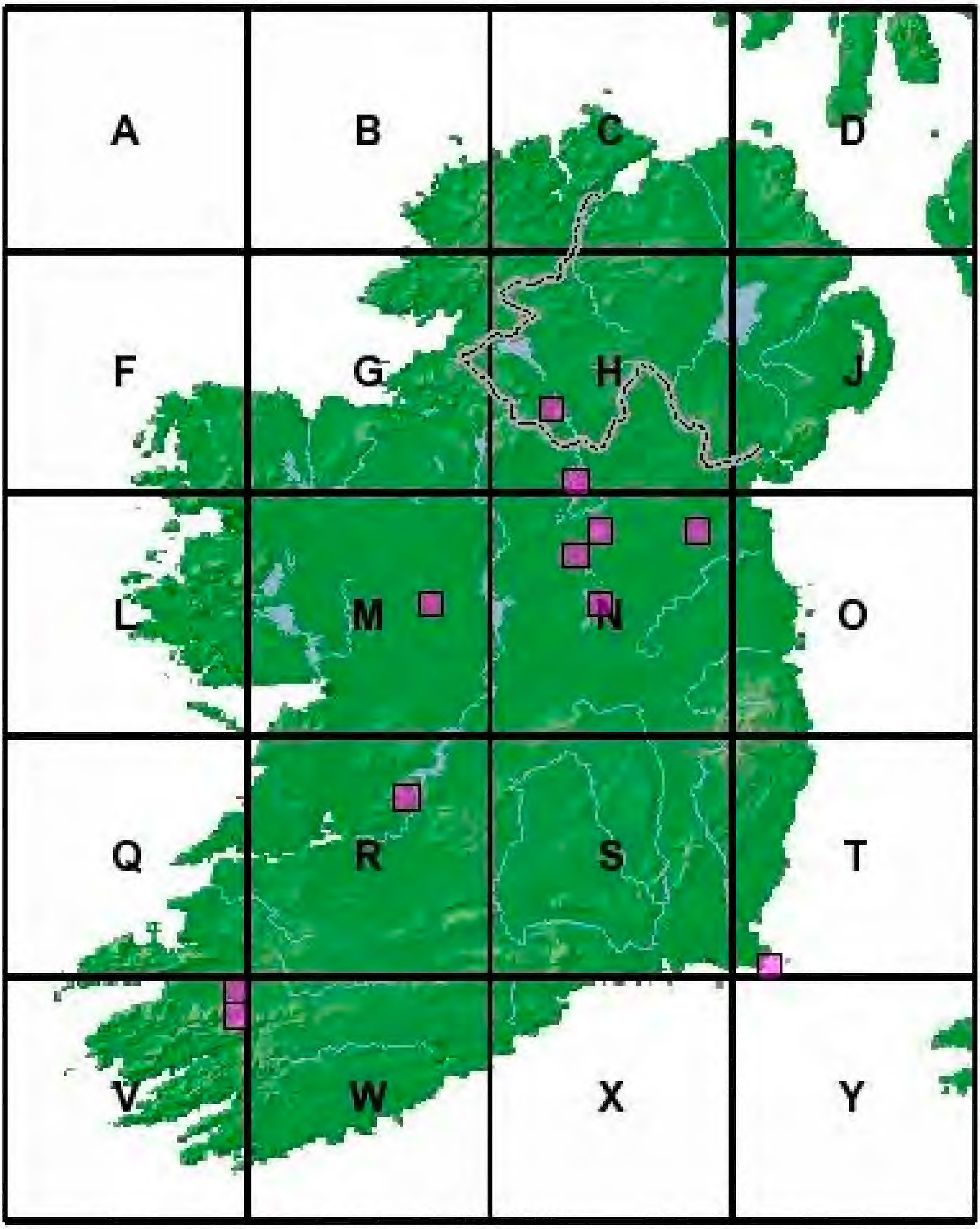

FIGURE 17. The known 10km distribution of *Hydroptila pulchricornis* Pictet, 1834.
Habitat: lakes but adults have also been found at a stream in a marsh.
Flight period: May – October.

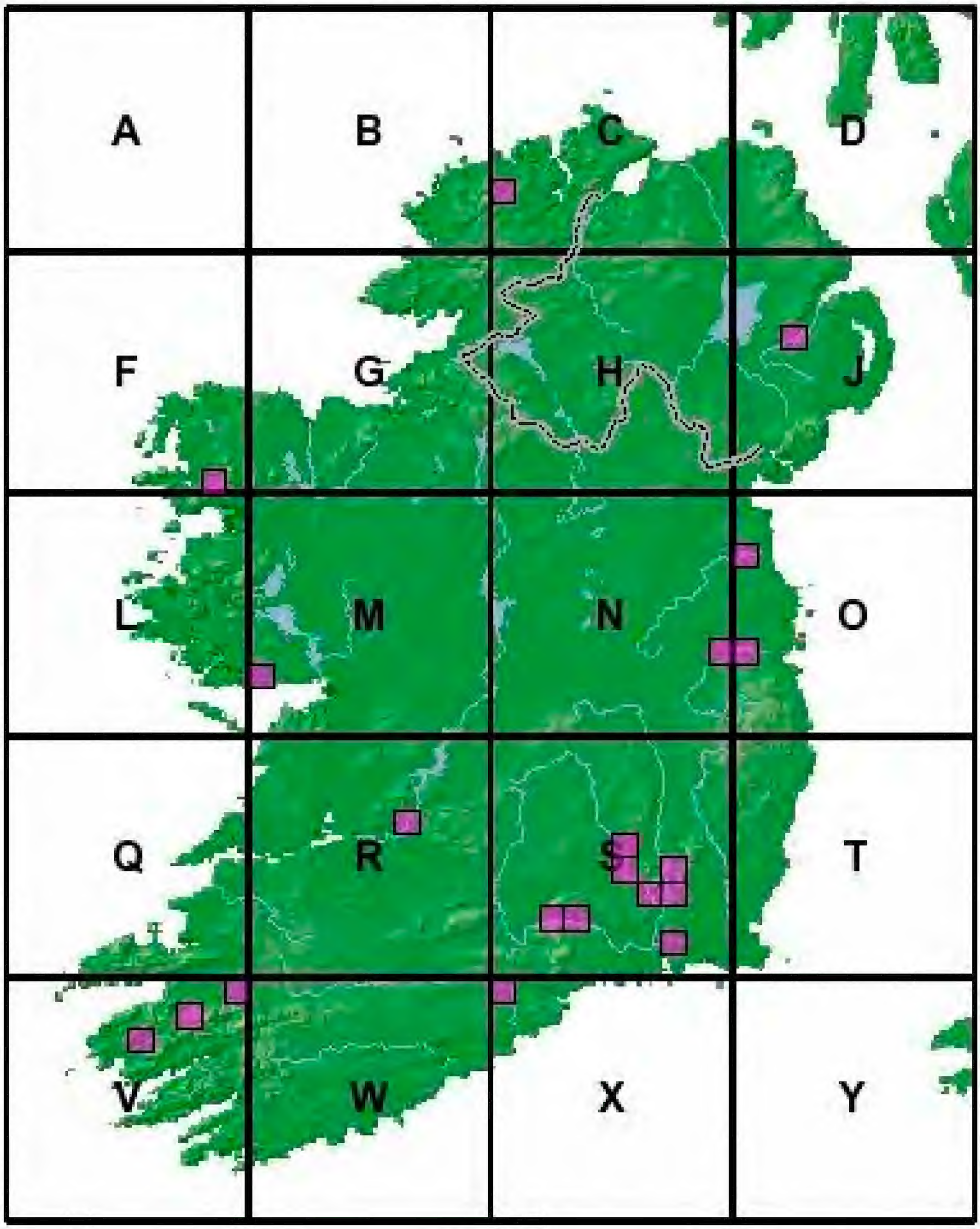

FIGURE 18. The known 10km distribution of *Hydroptila simulans* Mosely, 1920.
Habitat: rivers and streams.
Flight period: April – August.

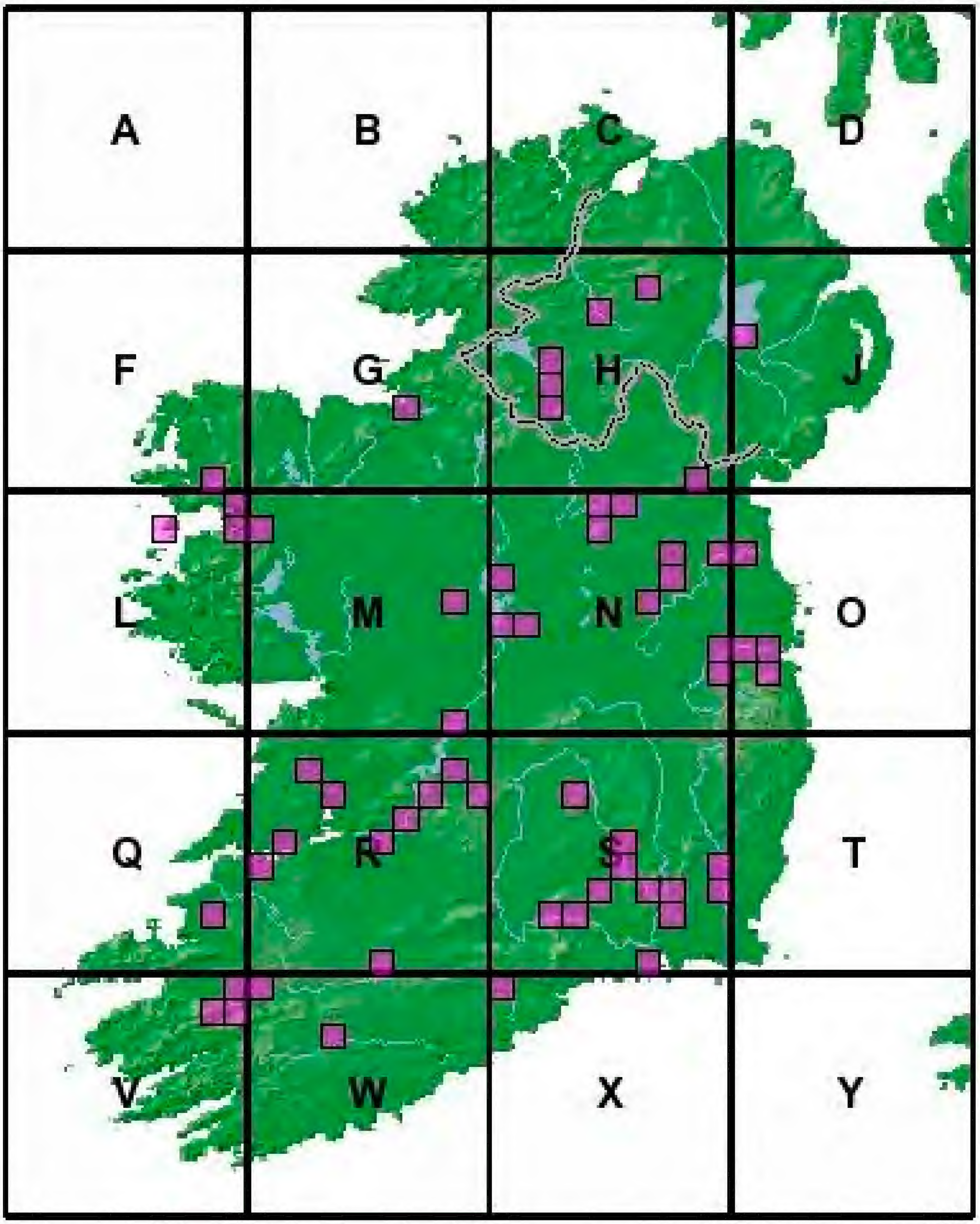

FIGURE 19. The 10km known distribution of *Hydroptila sparsa* Curtis, 1834.
Habitat: lakes, rivers and streams.
Flight period: March – September.

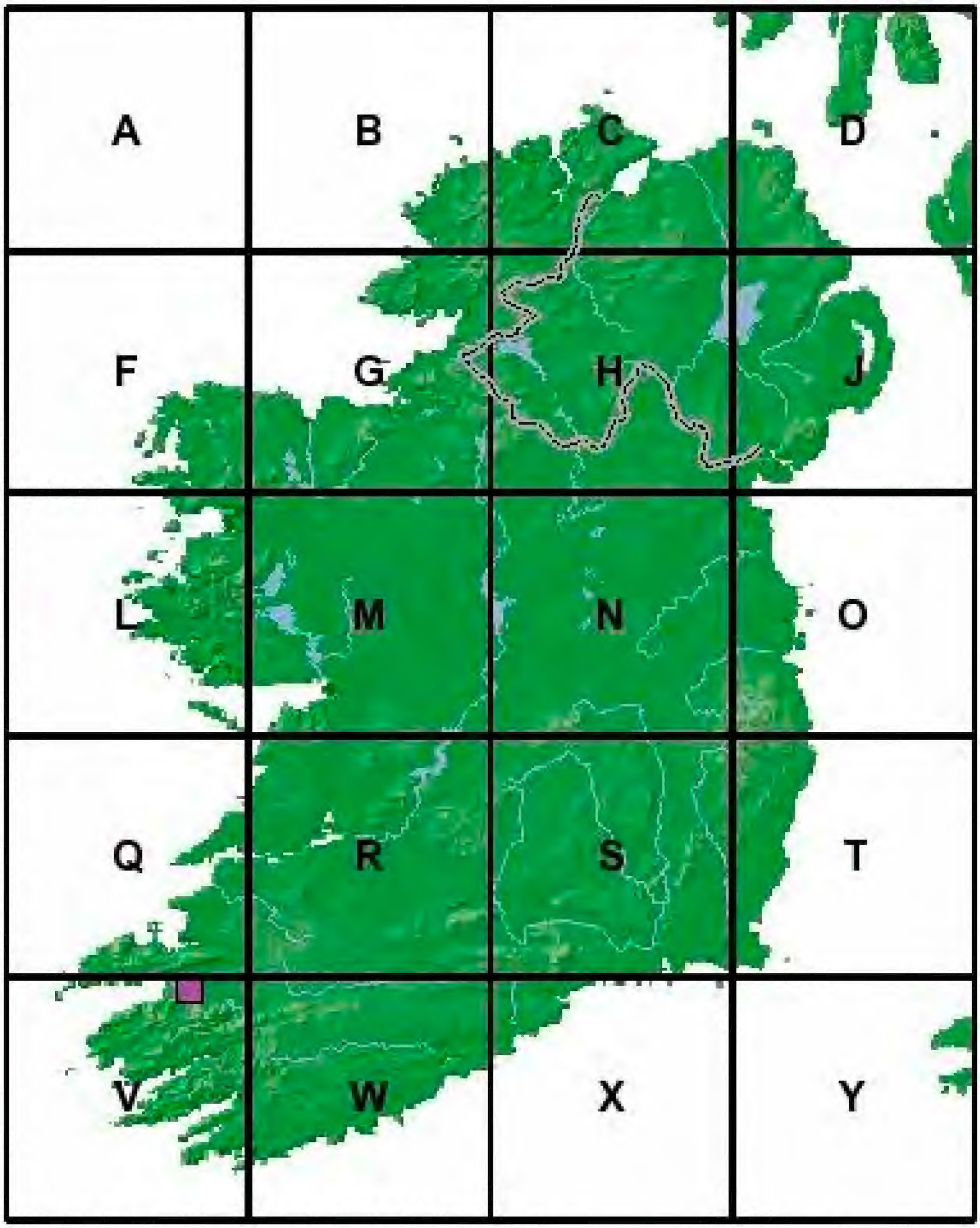

FIGURE 20. The known 10km distribution of *Hydroptila tigurina* Ris, 1894.
Habitat: rivers. **Flight period:** no Irish adults collected (Scotish records suggest July to August (Wallace, pers. comm.)).

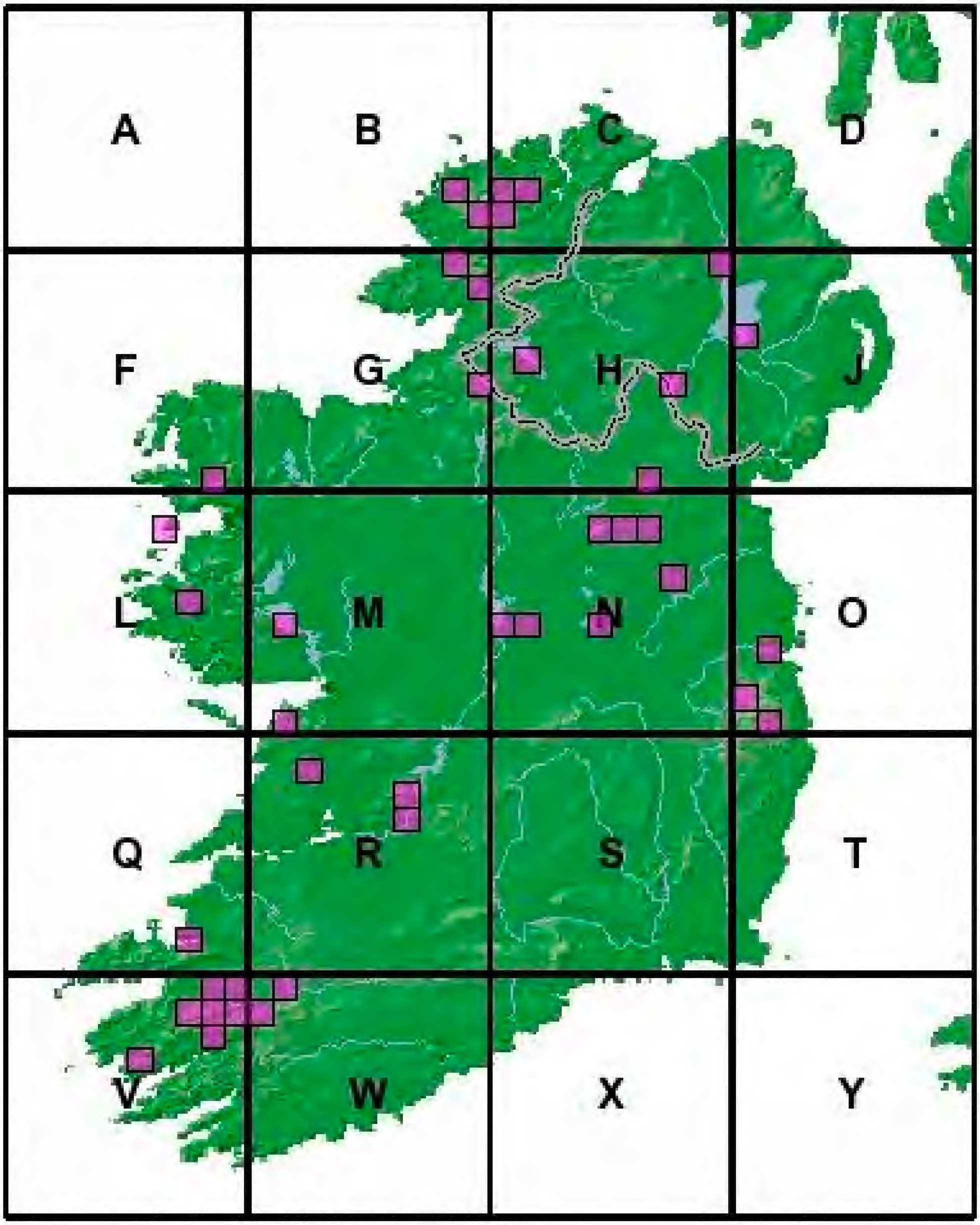

FIGURE 21. The known 10km distribution of *Hydroptila tineoides* Dalman, 1819.
Habitat: lakes and rivers.
Flight period: May – September.

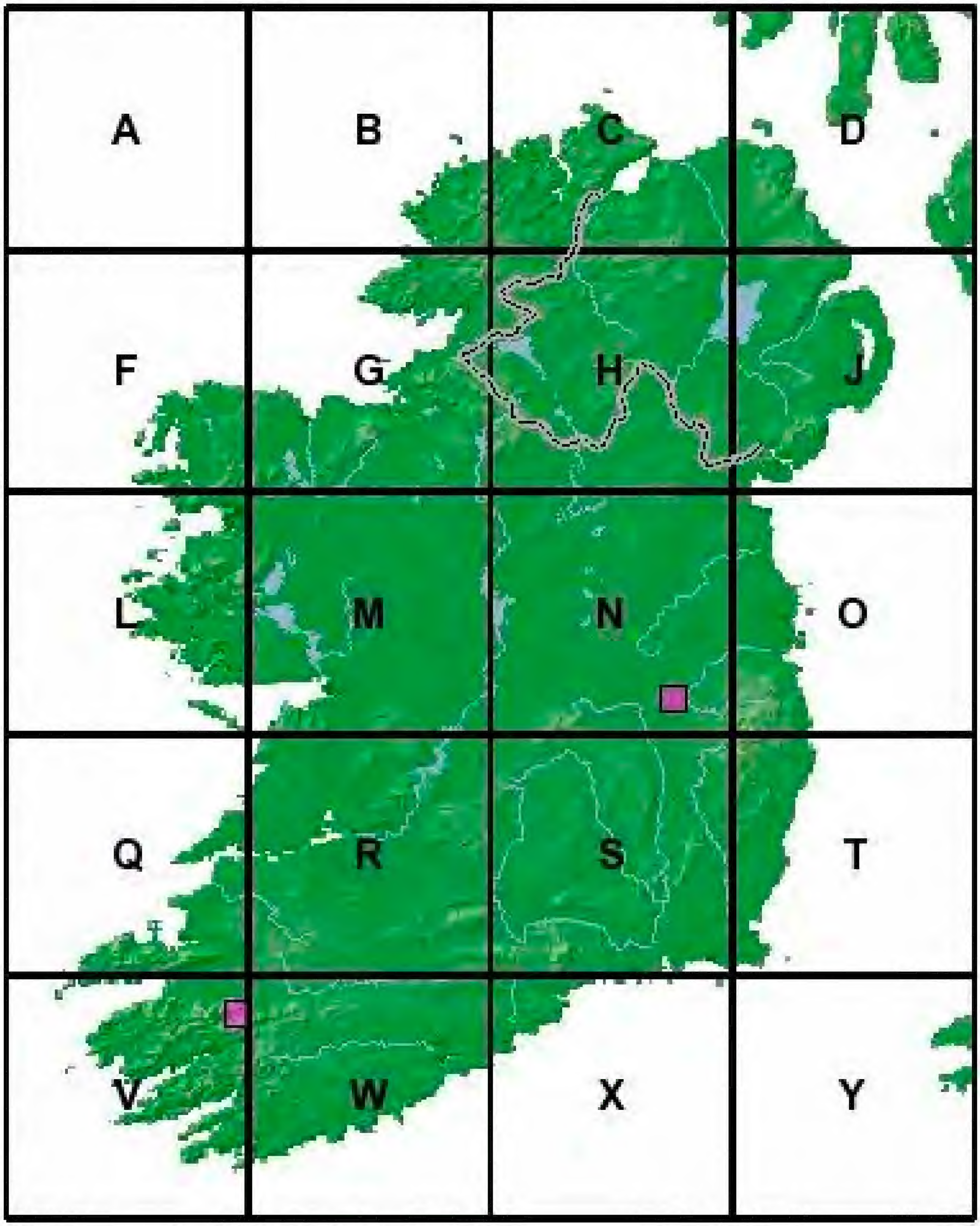

FIGURE 22. The known 10km distribution of *Hydroptila valesiaca* Schmid, 1947.
Habitat: spring-fed streams and the Irish ones are calcareous in nature.
Flight period: June – September.

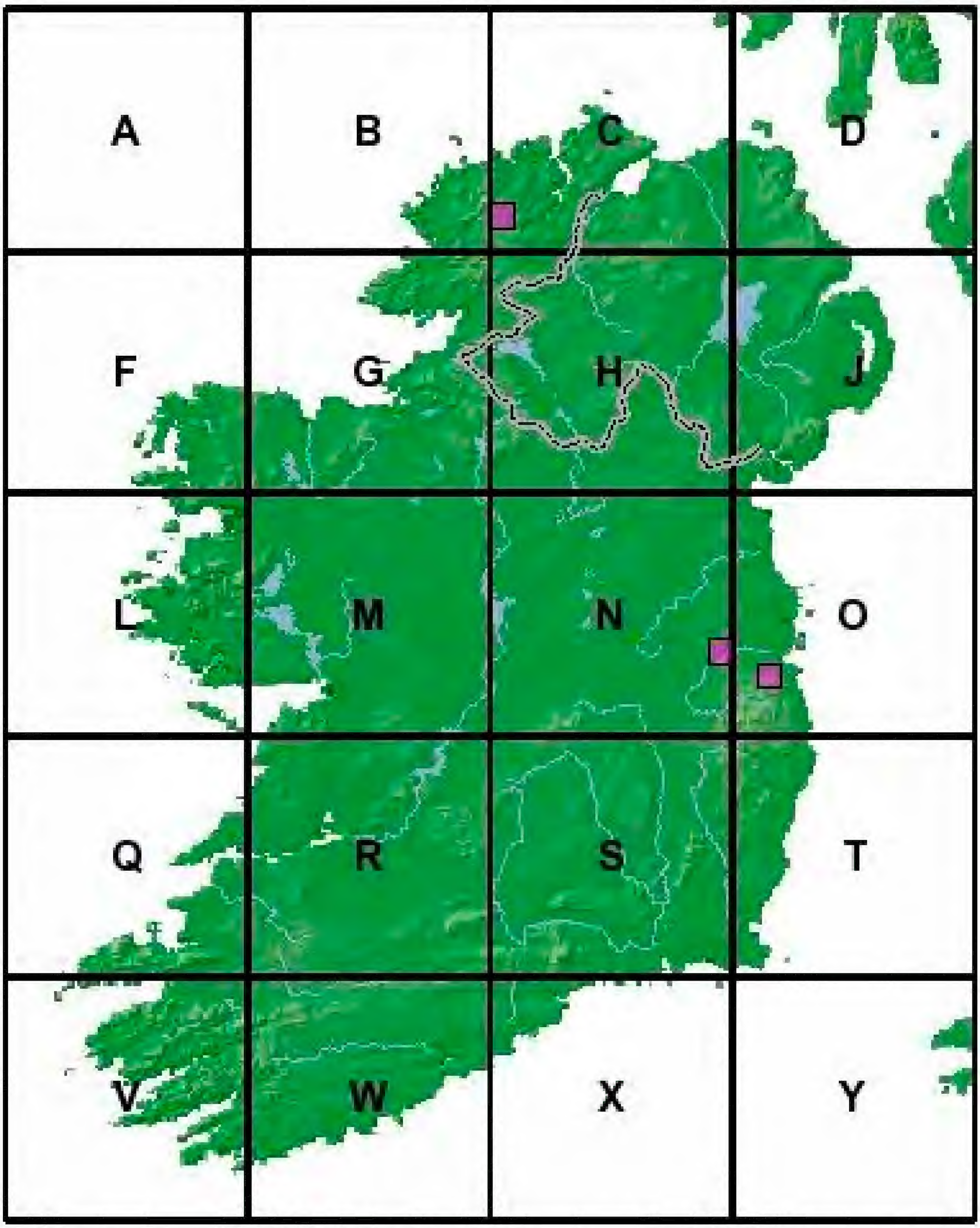

FIGURE 23. The known 10km distribution of *Hydroptila vectis* Curtis, 1834.
Habitat: rivers and streams.
Flight period: June – September.

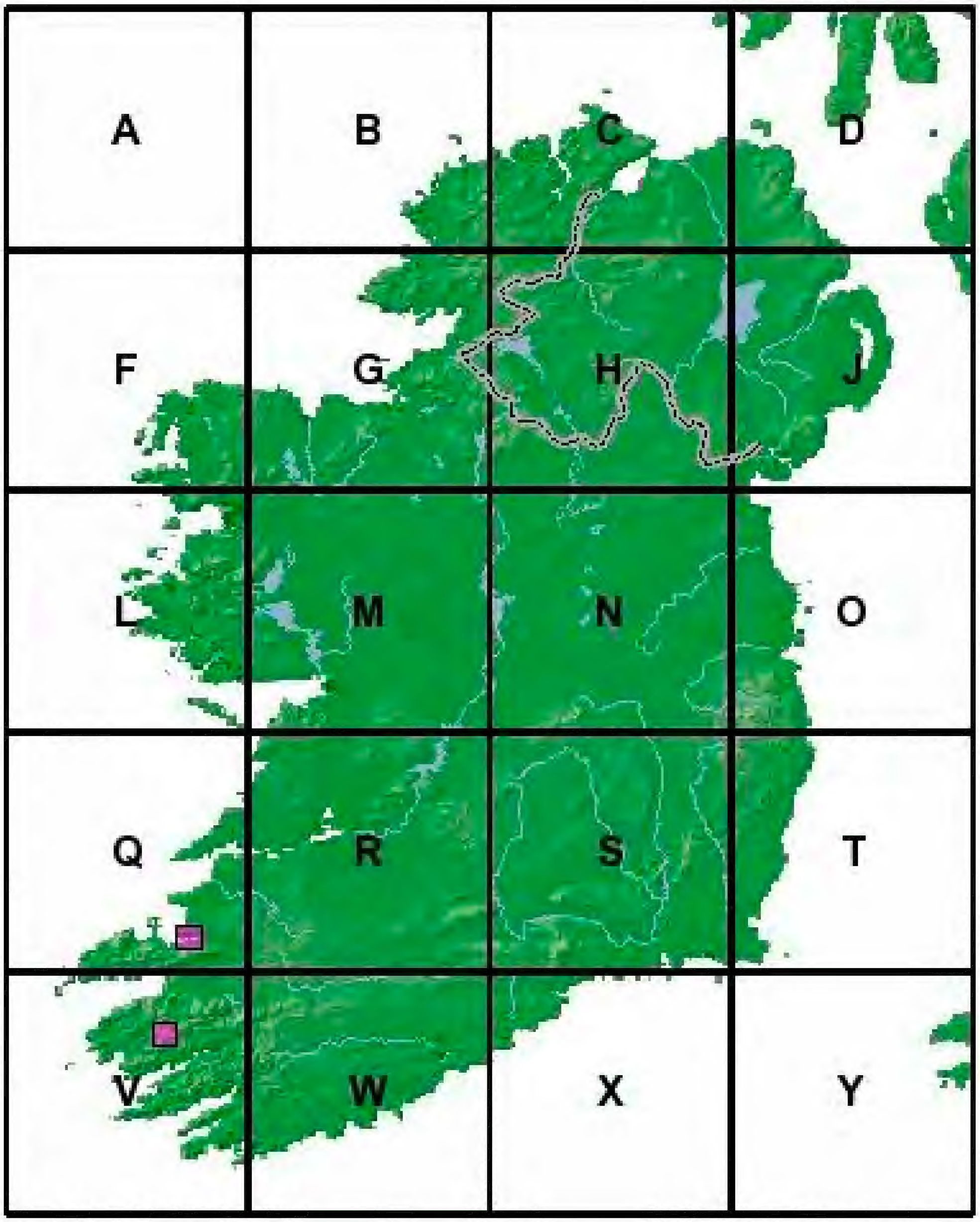

FIGURE 24. The known 10km distribution of *Ithytrichia clavata* Morton, 1905.
Habitat: fast flowing small rivers.
Flight period: July.

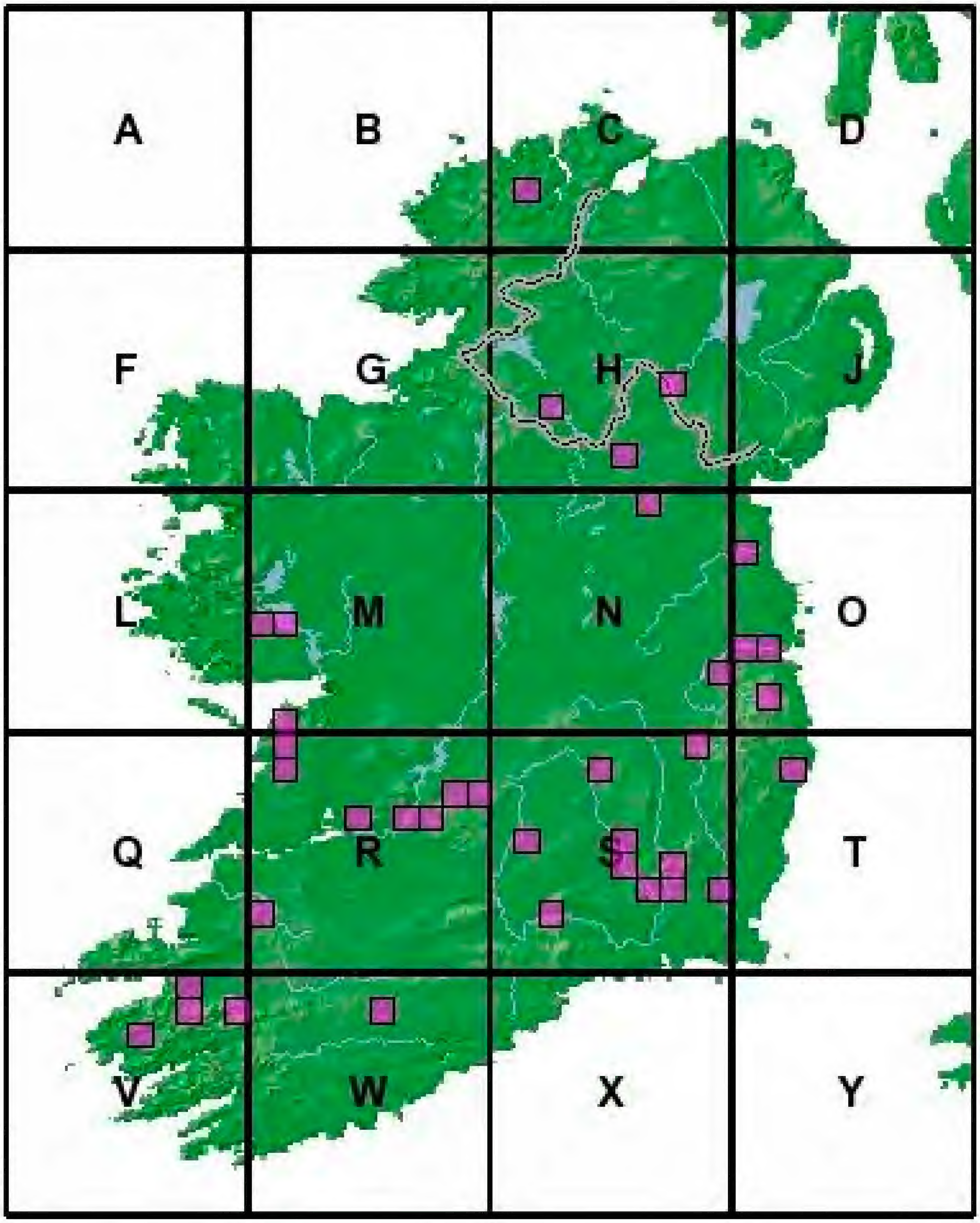

FIGURE 25. The known 10km distribution of *Ithytrichia lamellaris* Eaton, 1873.
Habitat: flowing water including rivers, streams and small canals.
Flight period: May – October.

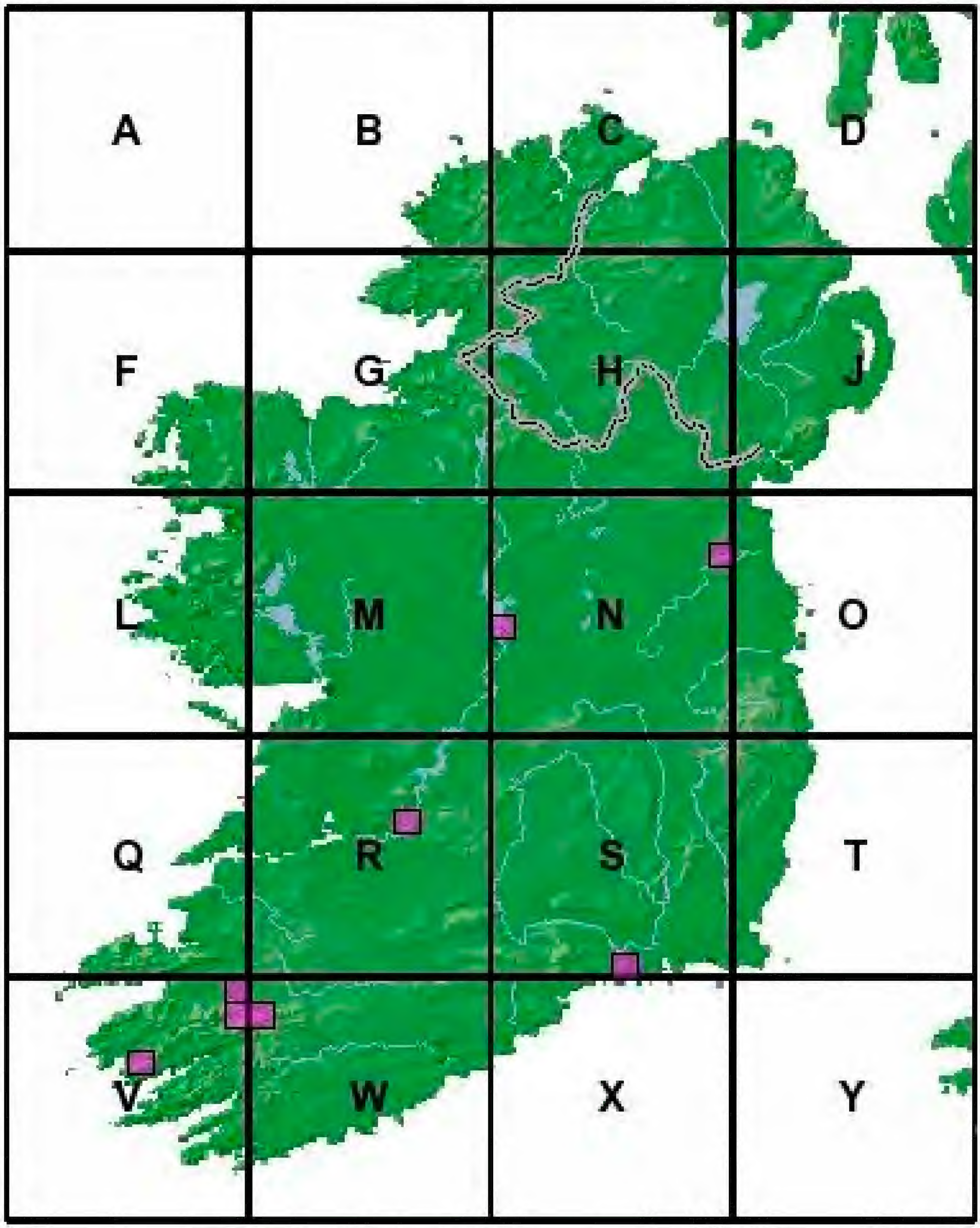

FIGURE 26. The known 10km distribution of *Orthotrichia angustella* (McLachlan, 1865).
Habitat: lakes and large rivers.
Flight period: June – September.

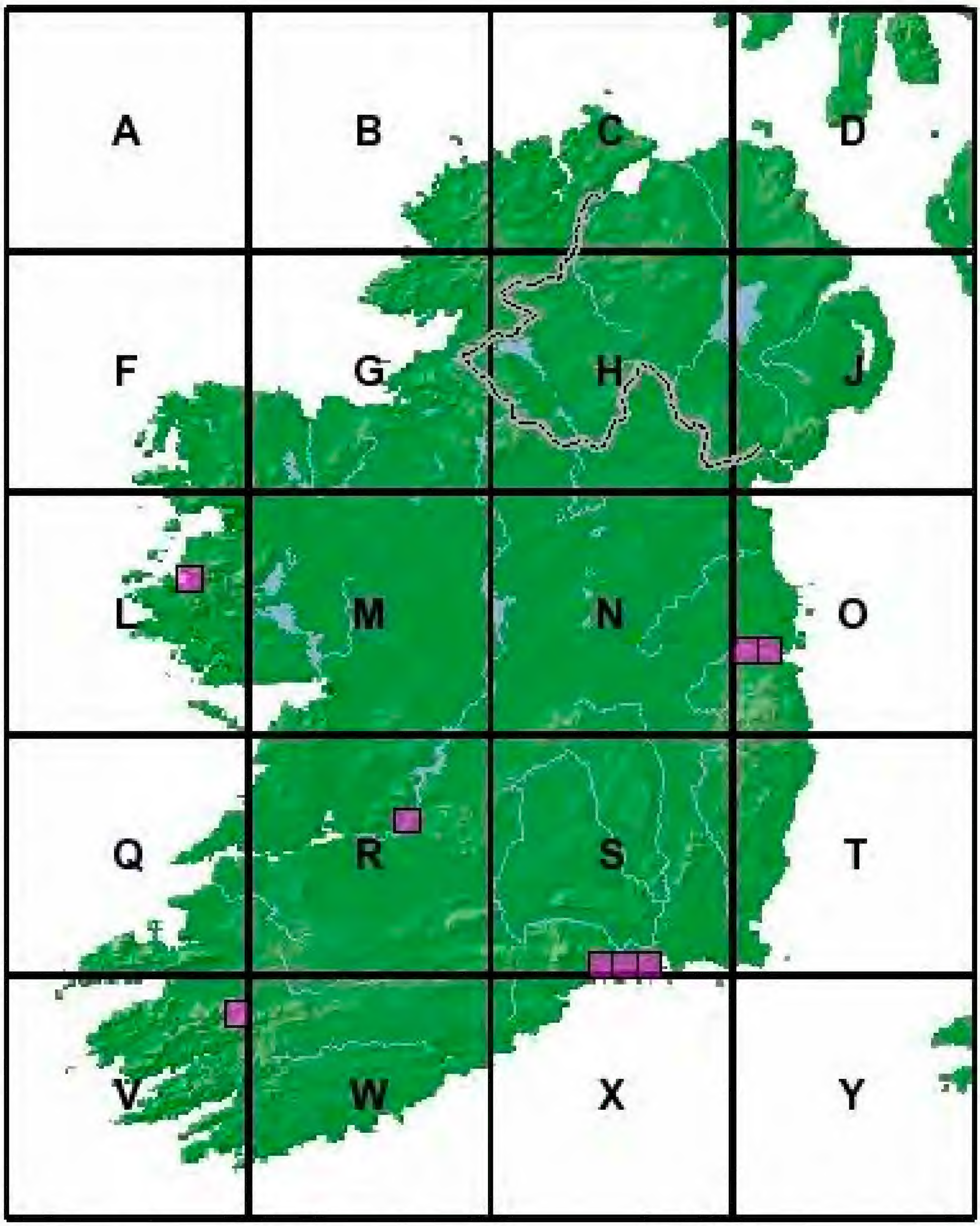

FIGURE 27. The known 10km distribution of *Orthotrichia costalis* (Curtis, 1834).
Habitat: lakes, ponds, reservoirs and rivers.
Flight period: June – July.

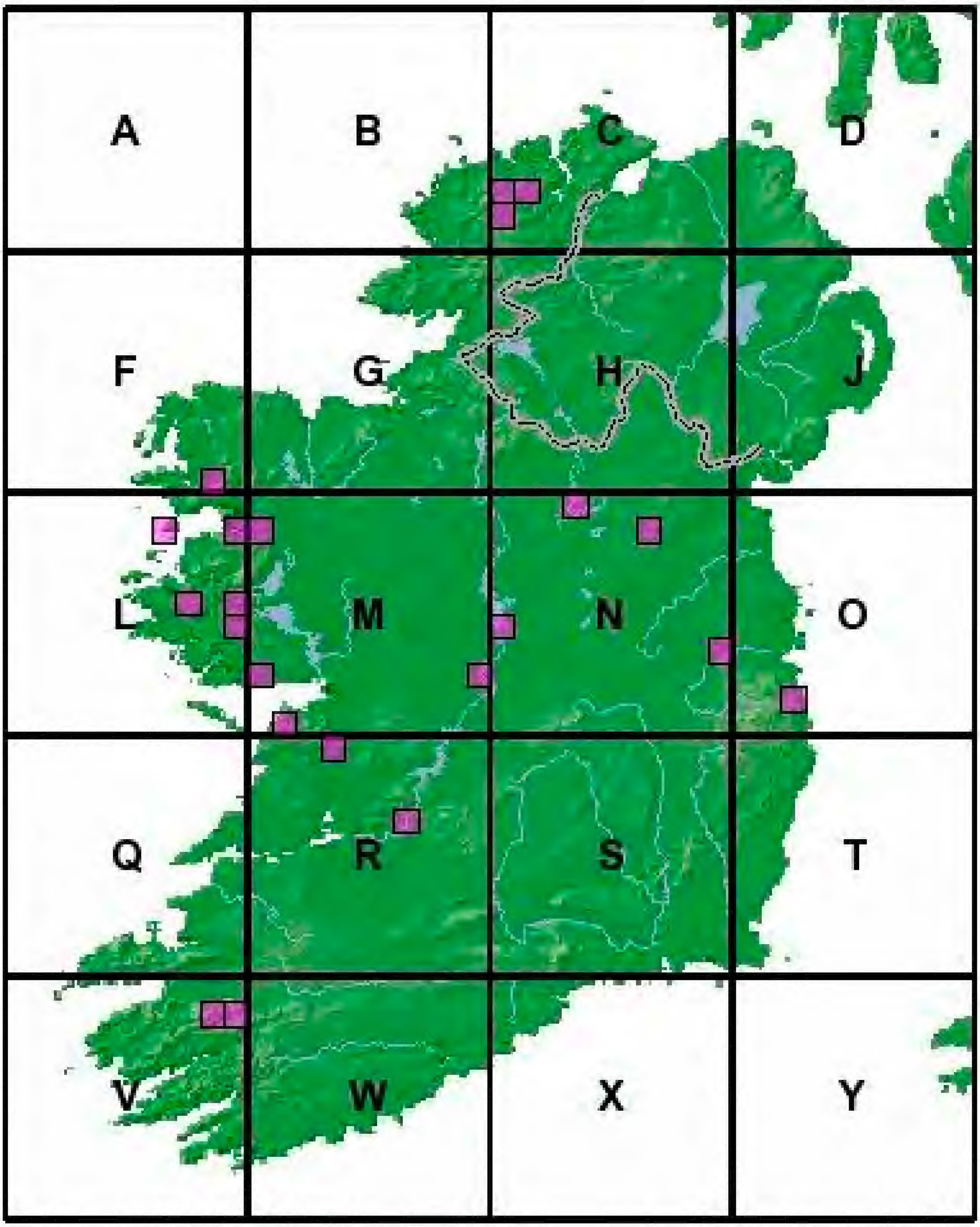

FIGURE 28. The known 10km distribution of *Oxyethira falcata* Morton, 1893.
Habitat: lakes, rivers and streams.
Flight period: May – October.

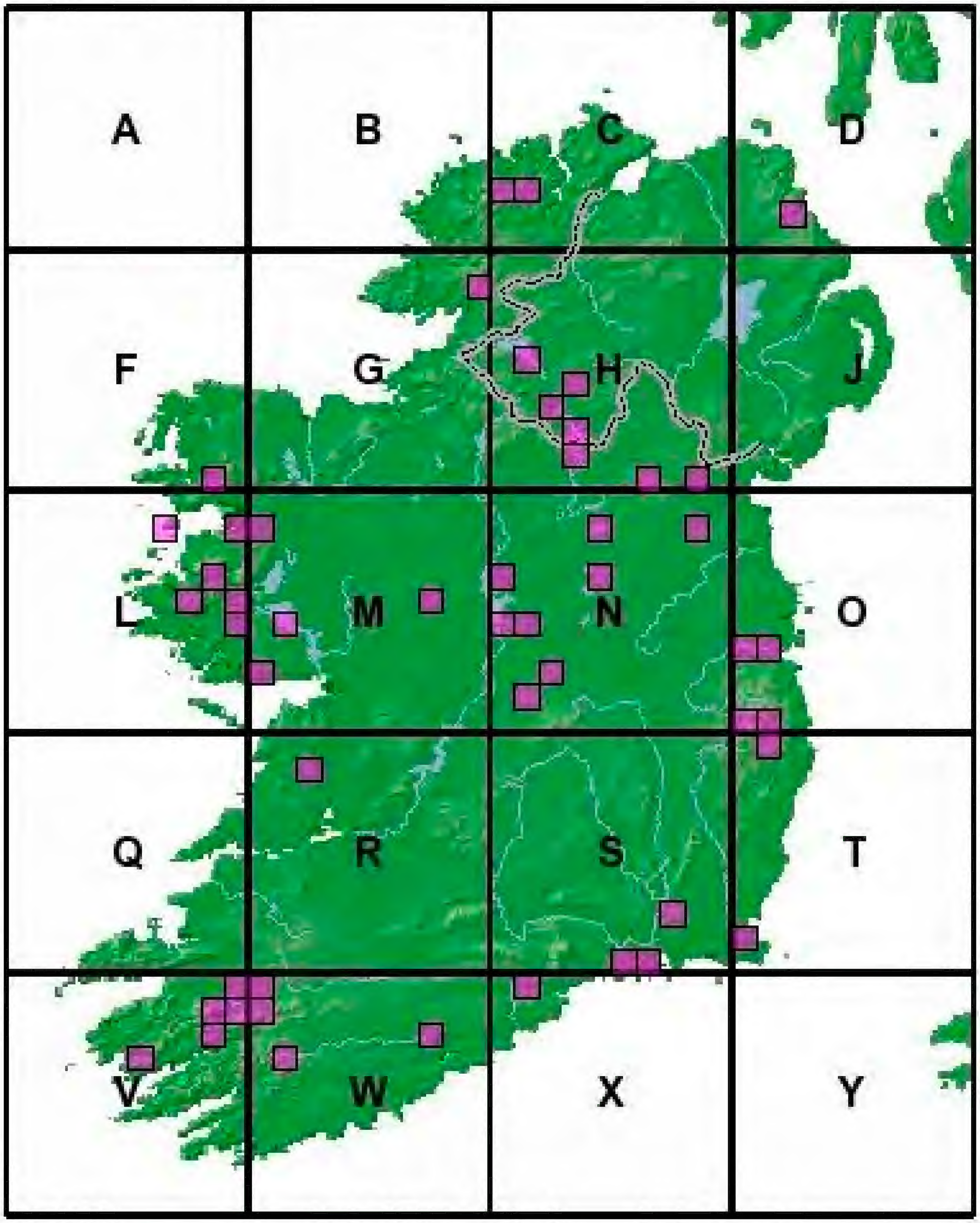

FIGURE 29. The known 10km distribution of *Oxyethira flavicornis* (Pictet, 1834).
Habitat: bogs, lakes, ponds and reservoirs with a few records from rivers.
Flight period: April – September.

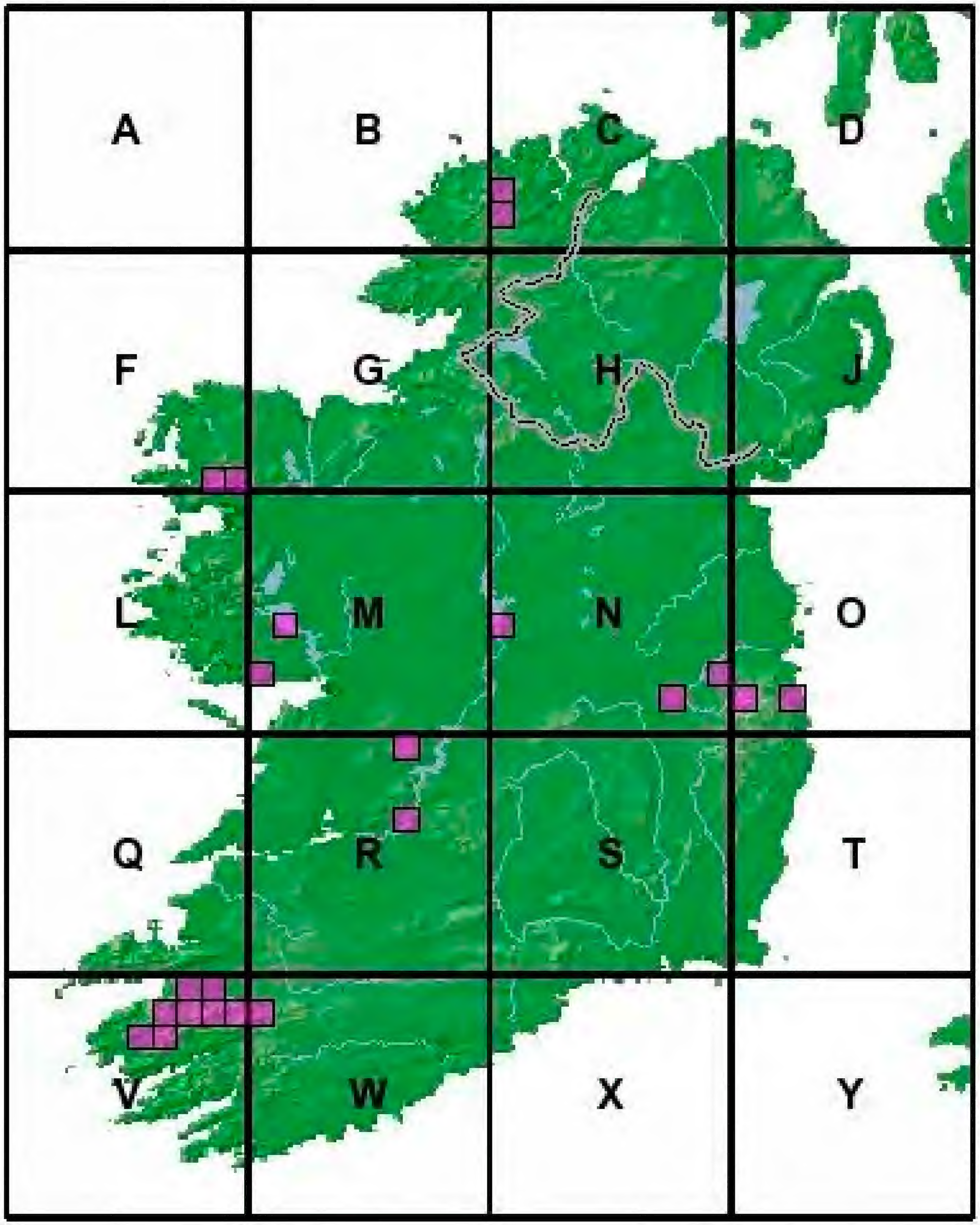

FIGURE 30. The known 10km distribution of *Oxyethira frici* Klapálek, 1891.
Habitat: bogs, fens, rivers and streams, also adults have been found beside pools in a marsh.
Flight period: May – October.

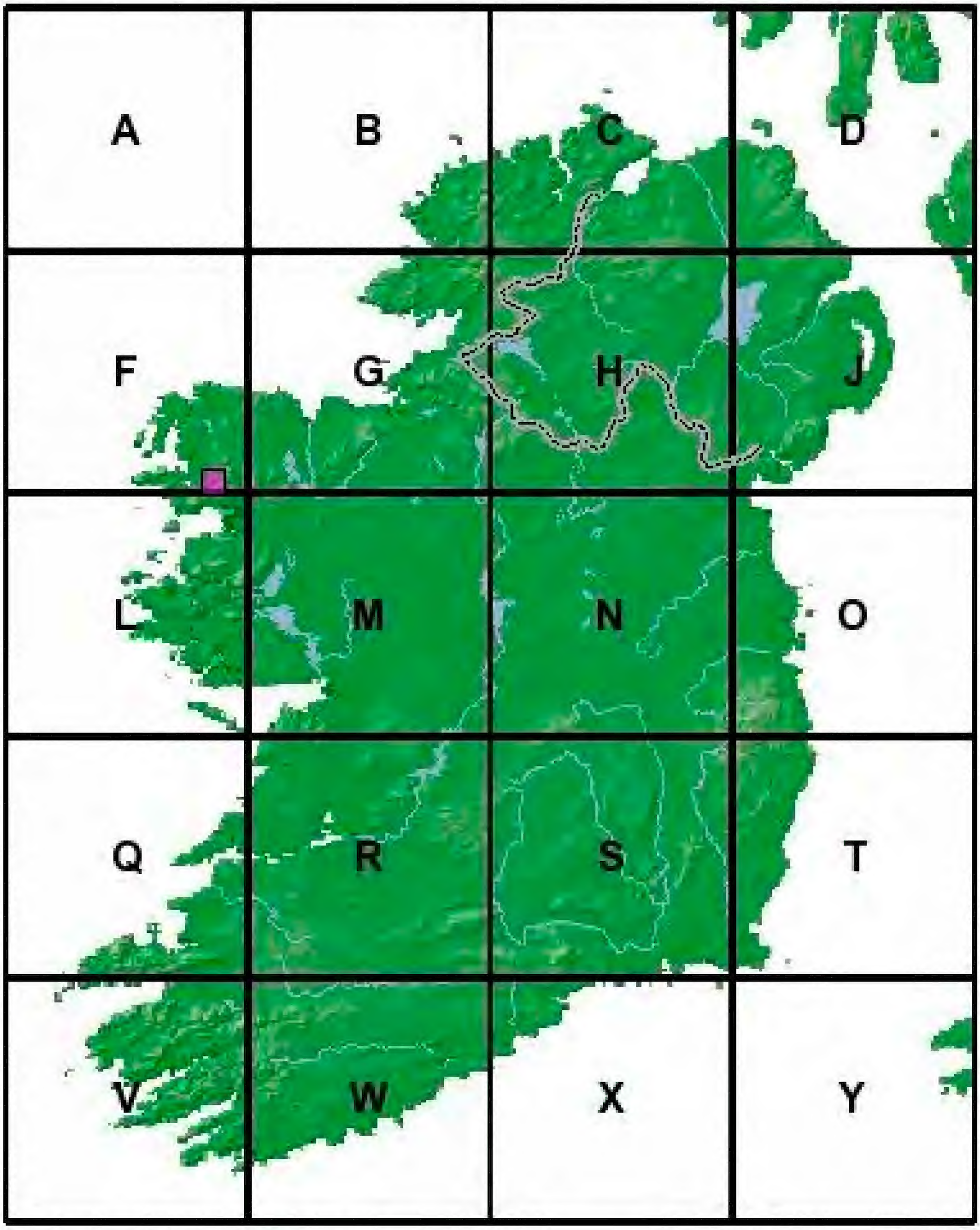

FIGURE 31. The known 10km distribution of *Oxyethira mirabilis* Morton, 1904.
Habitat: small rivulets that drain upland mires, dominated by living, peat-forming plants.
Flight period: May – August.

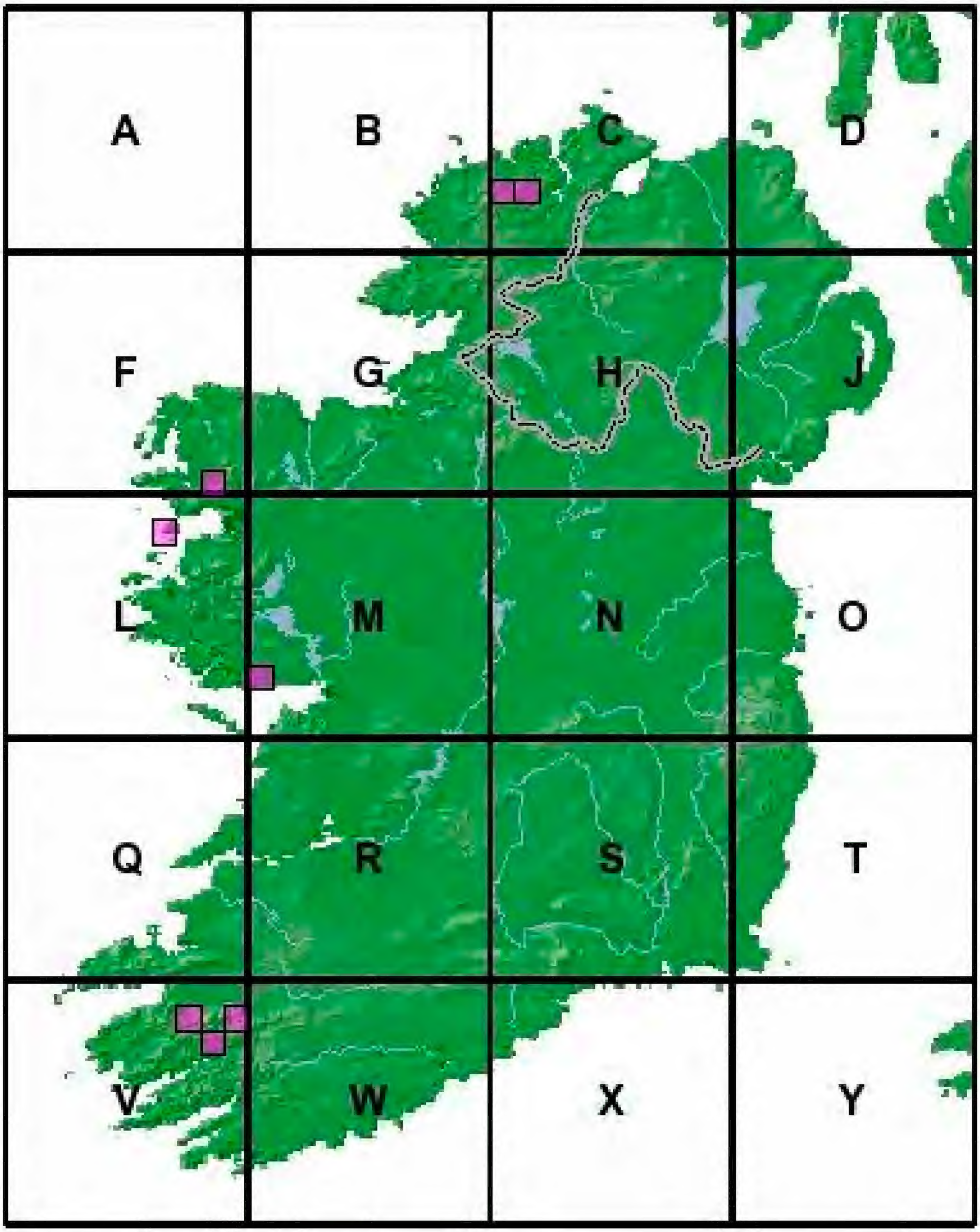

FIGURE 32. The known 10km distribution of *Oxyethira sagittifera* Ris, 1897.
Habitat: rivers and lakes.
Flight period: April – August.

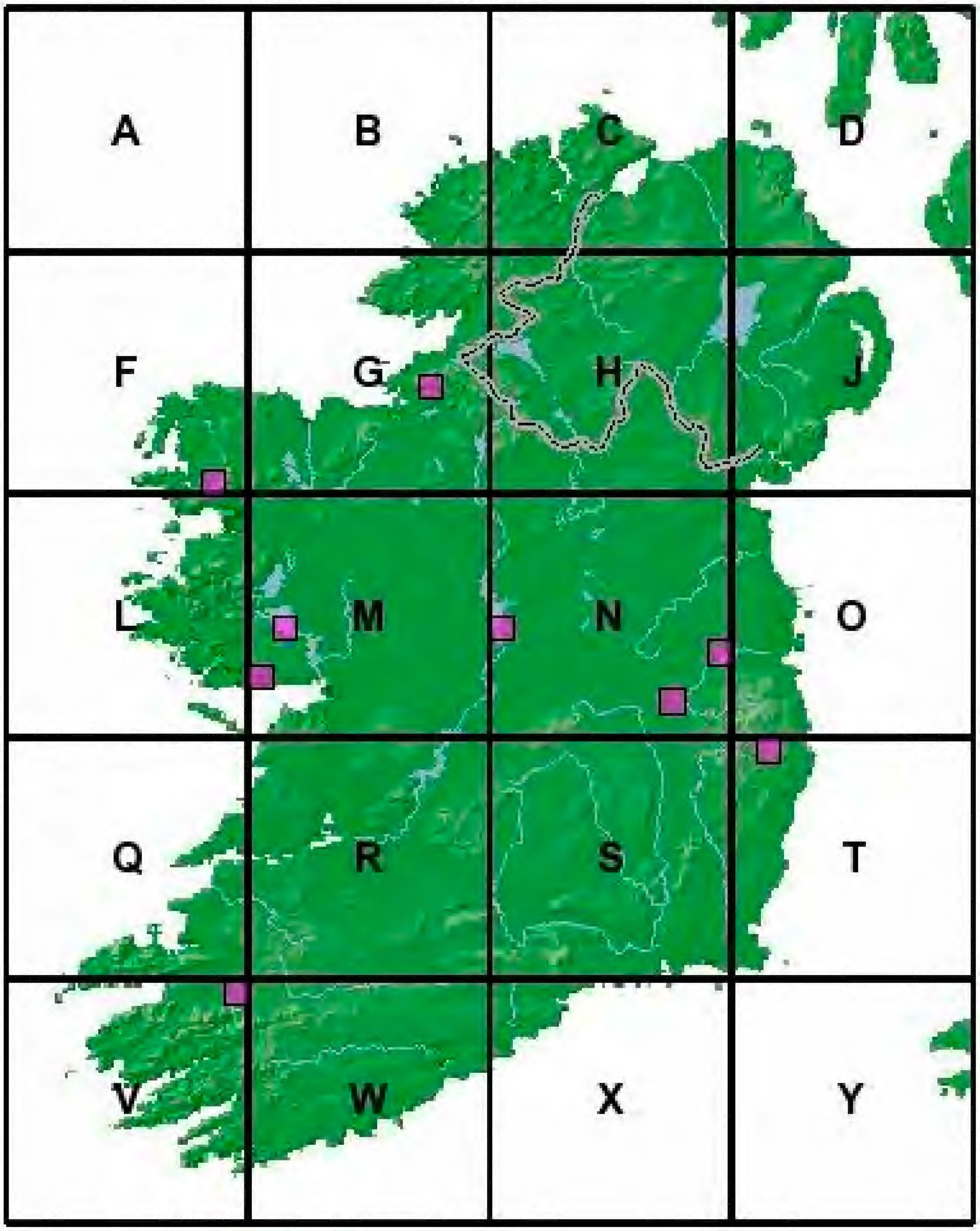

FIGURE 33. The known 10km distribution of *Oxyethira simplex* Ris, 1897.
Habitat: rivers and streams including the latter in fens and marshes.
Flight period: May – September.

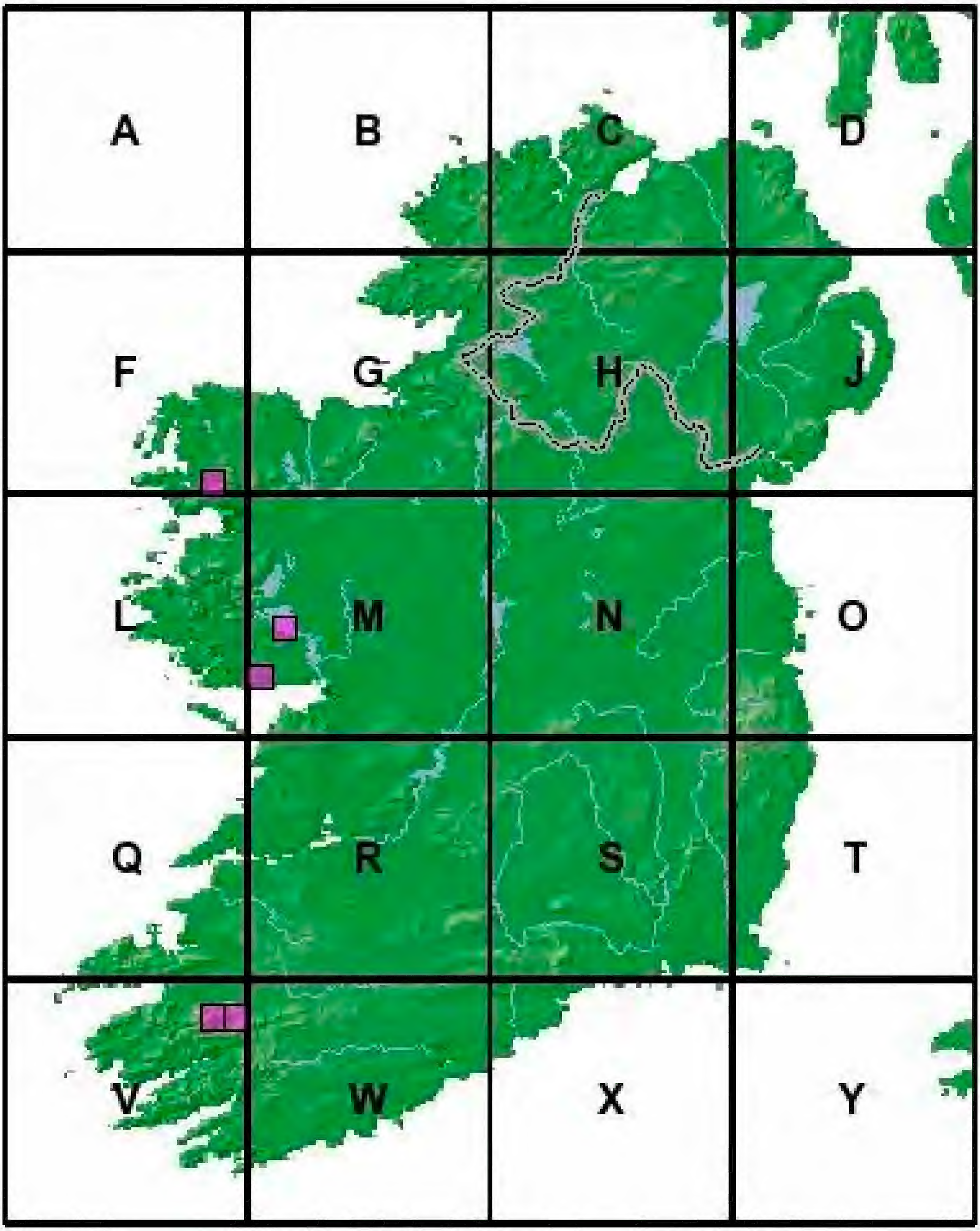

FIGURE 34. The known 10km distribution of *Oxyethira tristella* Klapálek, 1895.
Habitat: lakes and pools.
Flight period: (May), July – August.

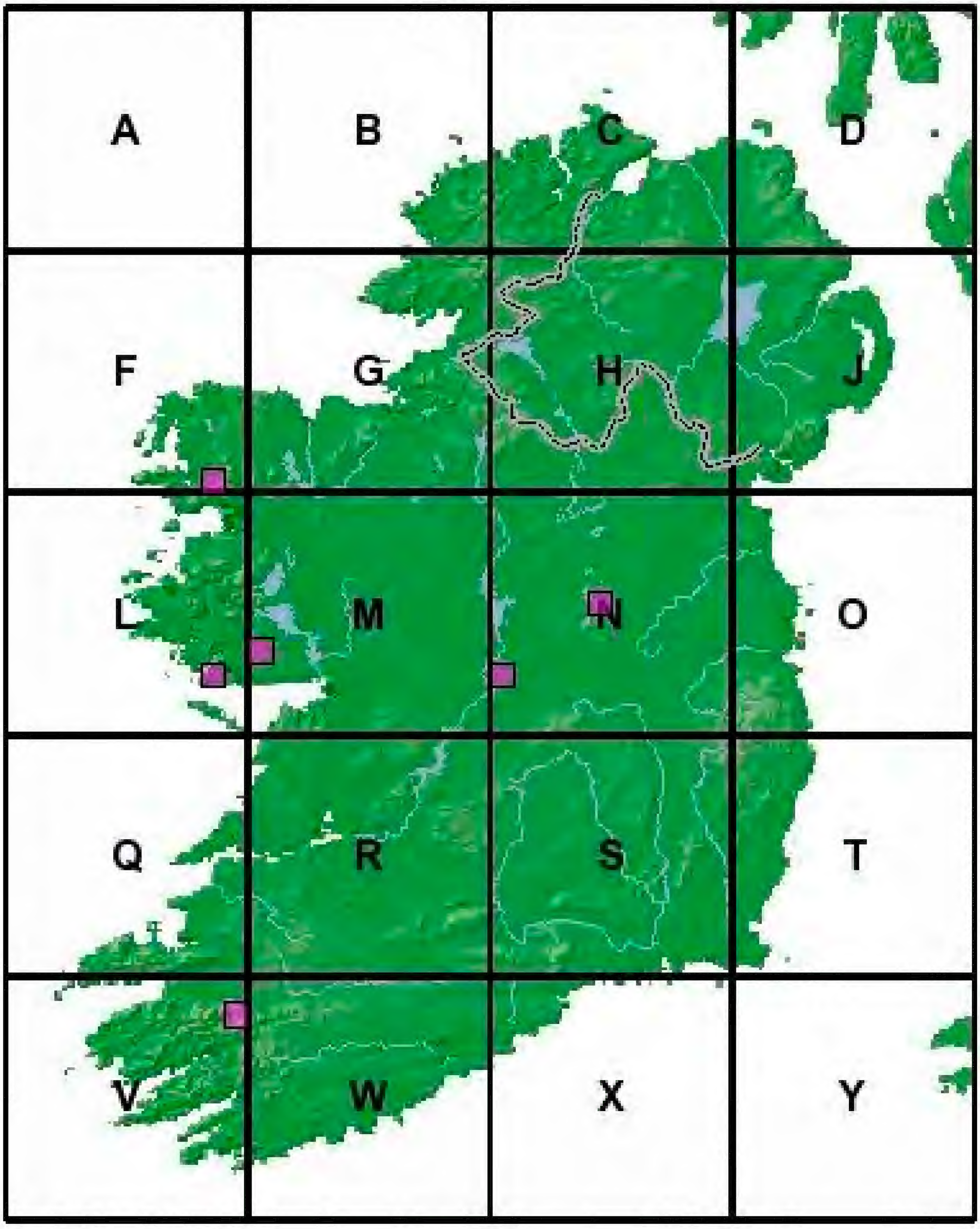

FIGURE 35. The known 10km distribution of *Tricholeiochiton fagesii* (Guinard, 1879).
Habitat: lakes and bog pools.
Flight period: August (only one adult (♀) collected) (Britain: July).

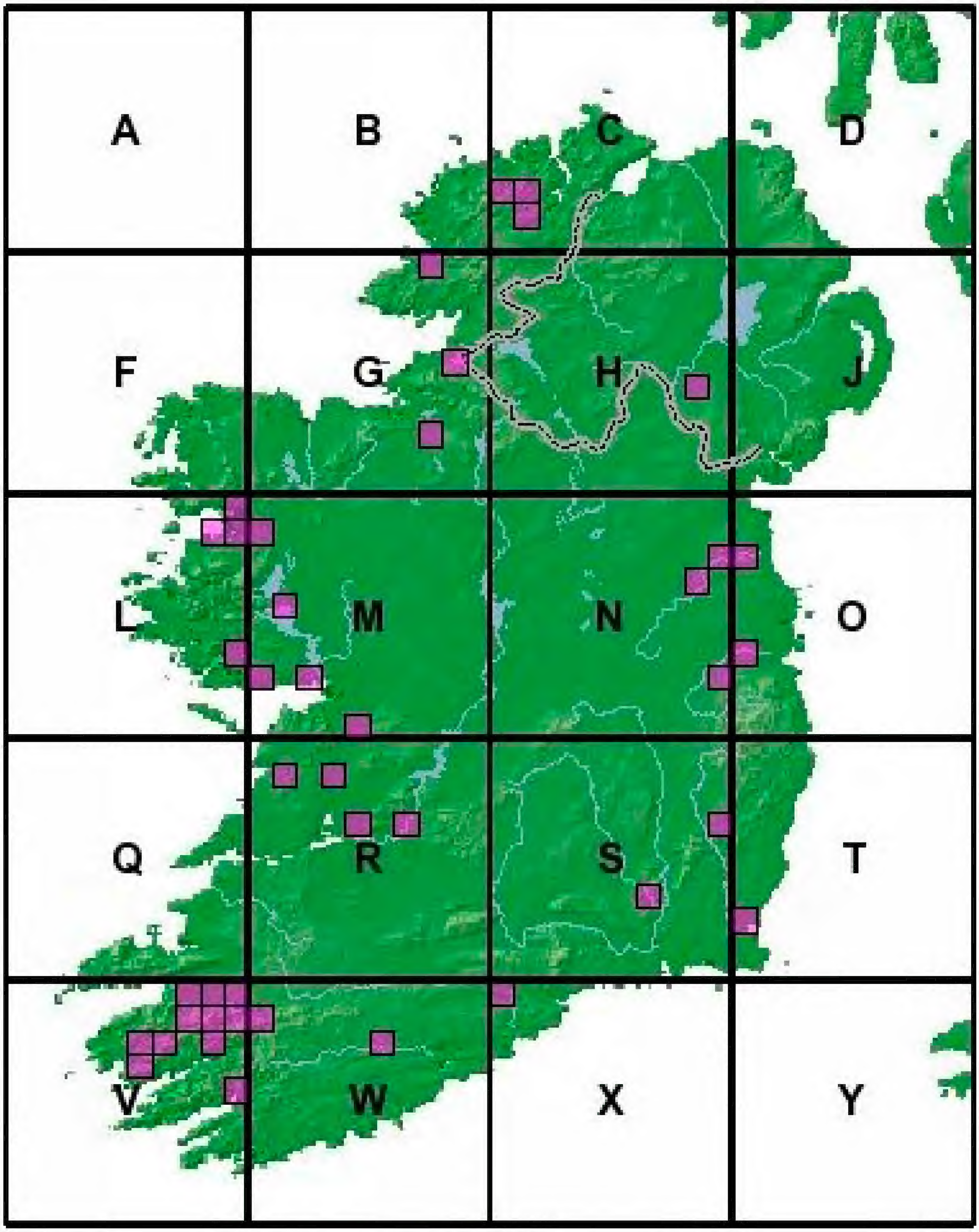

FIGURE 36. The known 10km distribution of *Chimarra marginata* (Linnaeus, 1761).
Habitat: fast flowing rivers and streams.
Flight period: May – October.

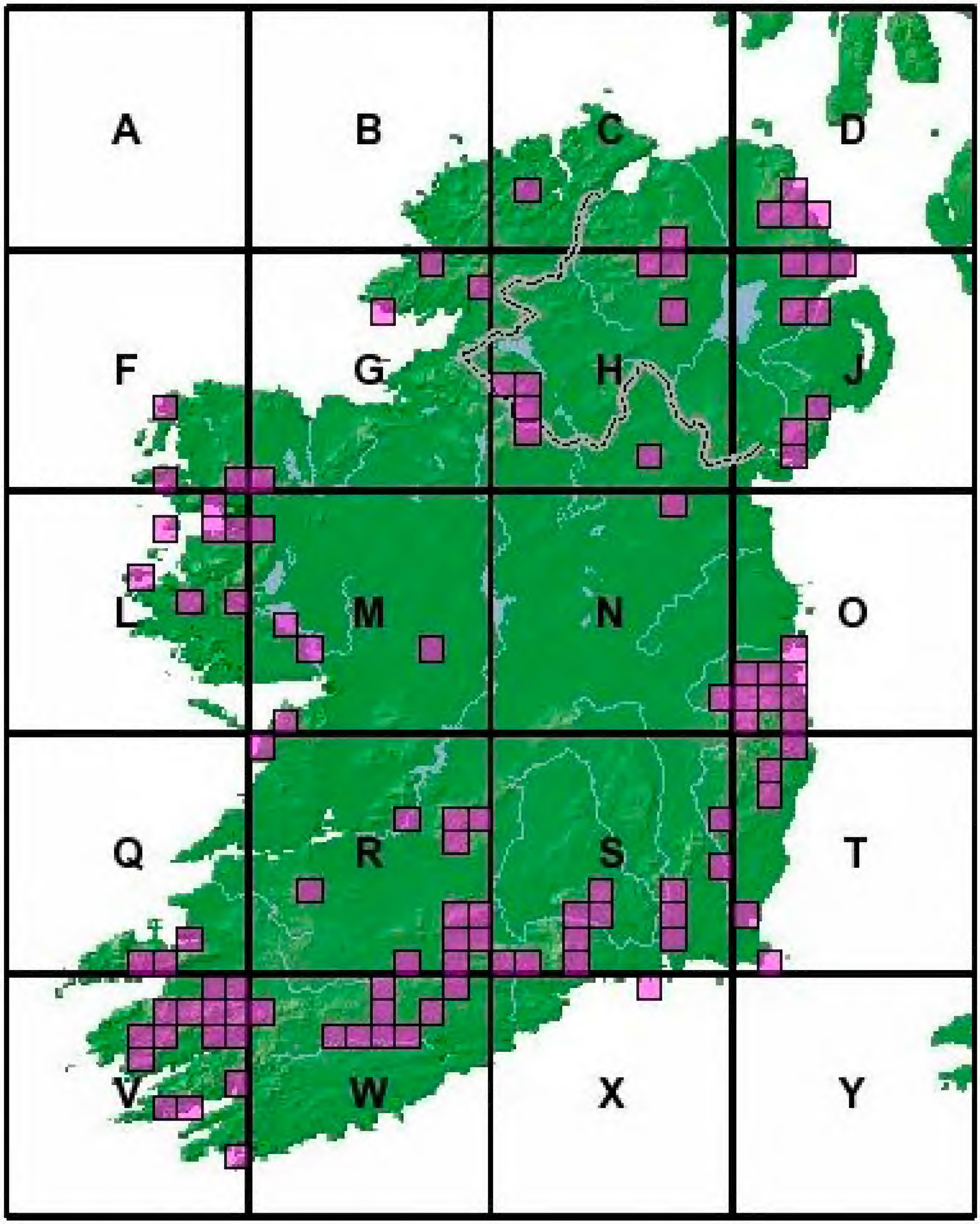

FIGURE 37. The known 10km distribution of *Philopotamus montanus* (Donovan, 1813).
Habitat: fast-flowing streams, trickles, small rivers and waterfalls.
Flight period: February – October.

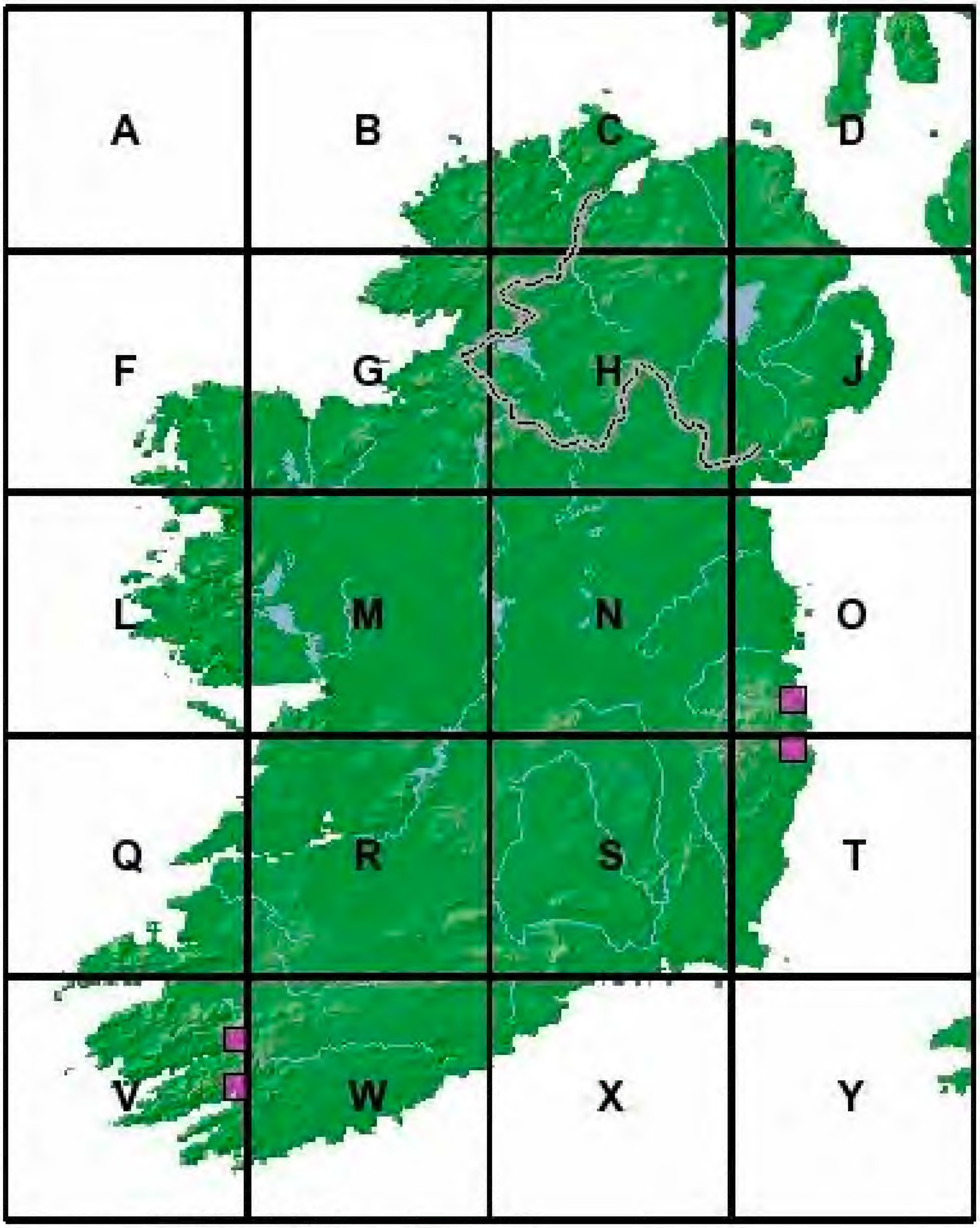

FIGURE 38. The known 10km distribution of *Wormaldia mediana* McLachlan, 1878.
Habitat: small fast-flowing rivers.
Flight period: July – August.

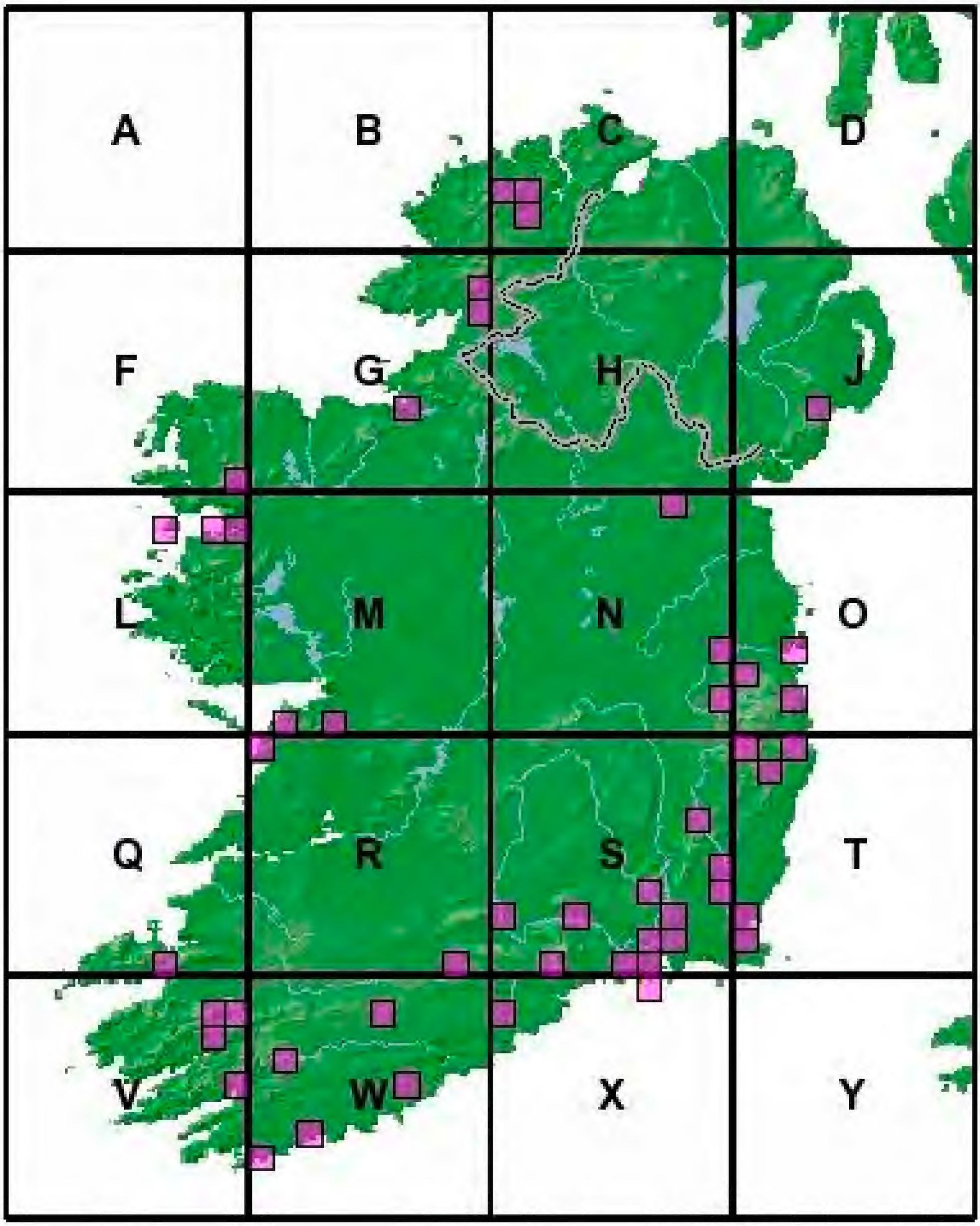

FIGURE 39. The known 10km distribution of *Wormaldia occipitalis* (Pictet, 1834). **Habitat:** streams, marsh and tufa trickles, spring-fed trickles, on dripping rocks and other wet seepages. **Flight period:** March – October.

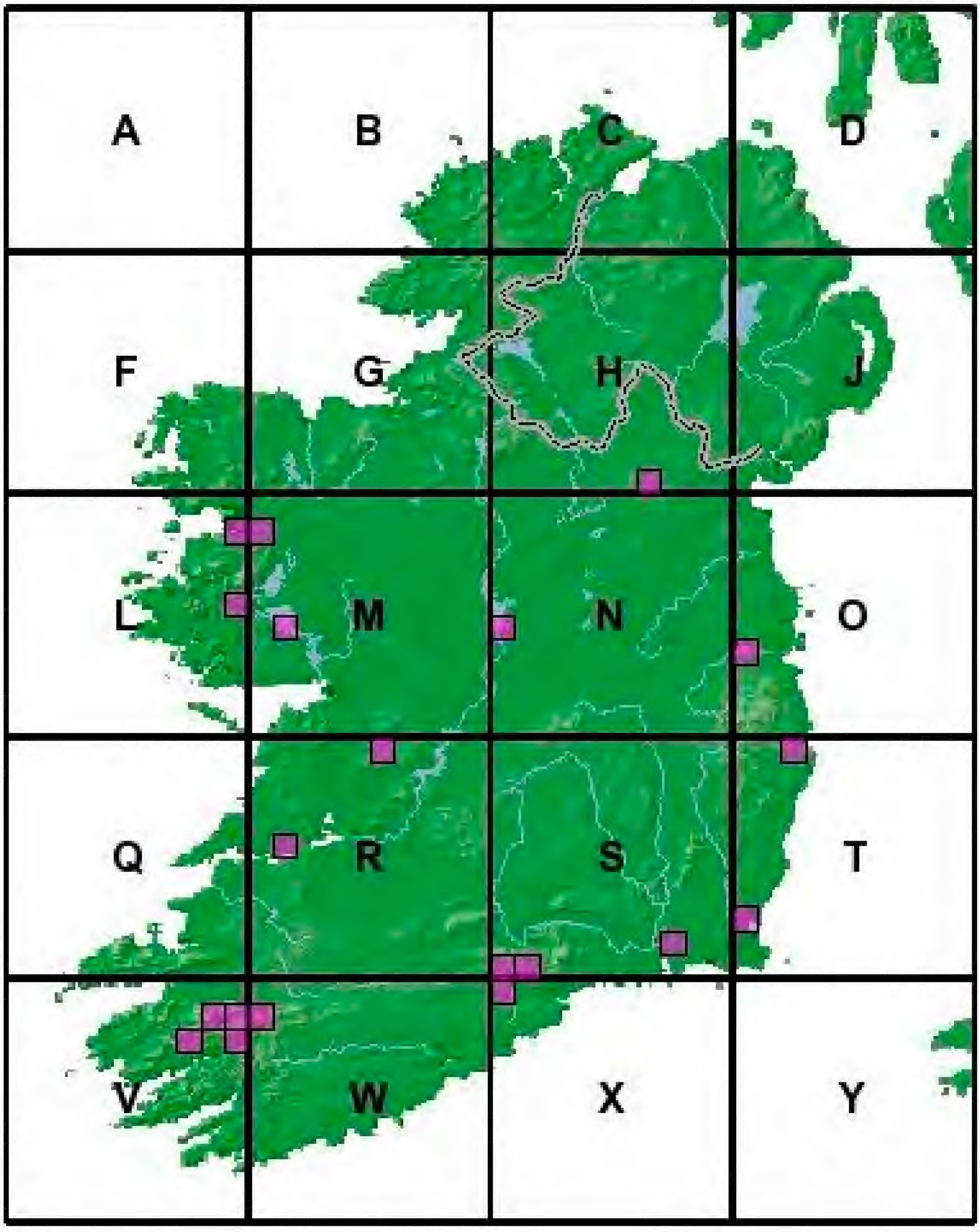

FIGURE 40. The known 10km distribution of *Wormaldia subnigra* McLachlan, 1865.
Habitat: rivers and streams.
Flight period: July – October.

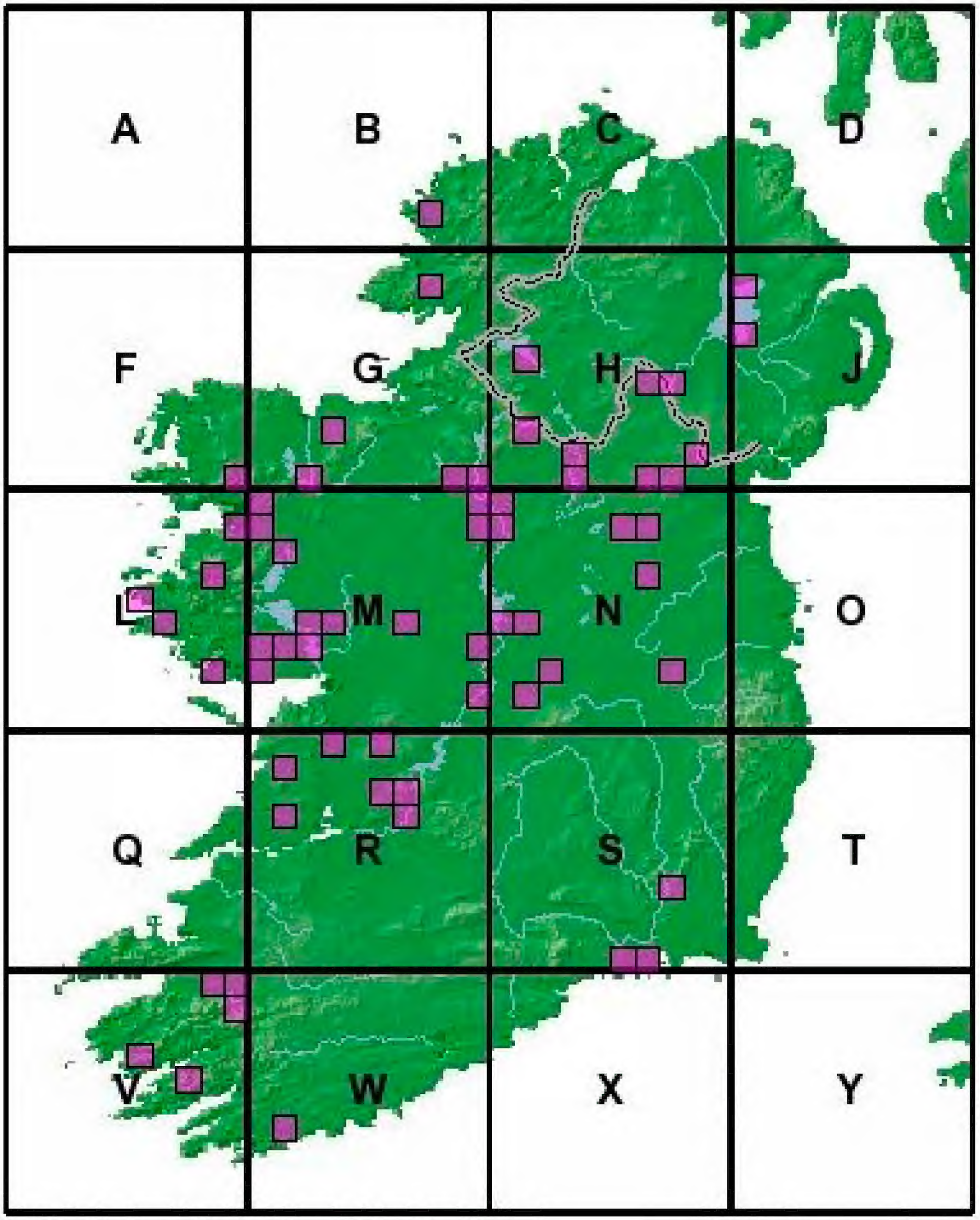

FIGURE 41. The known 10km distribution of *Ecnomus tenellus* (Rambur, 1842).
Habitat: mainly lakes but also canals and rivers.
Flight period: June – October.

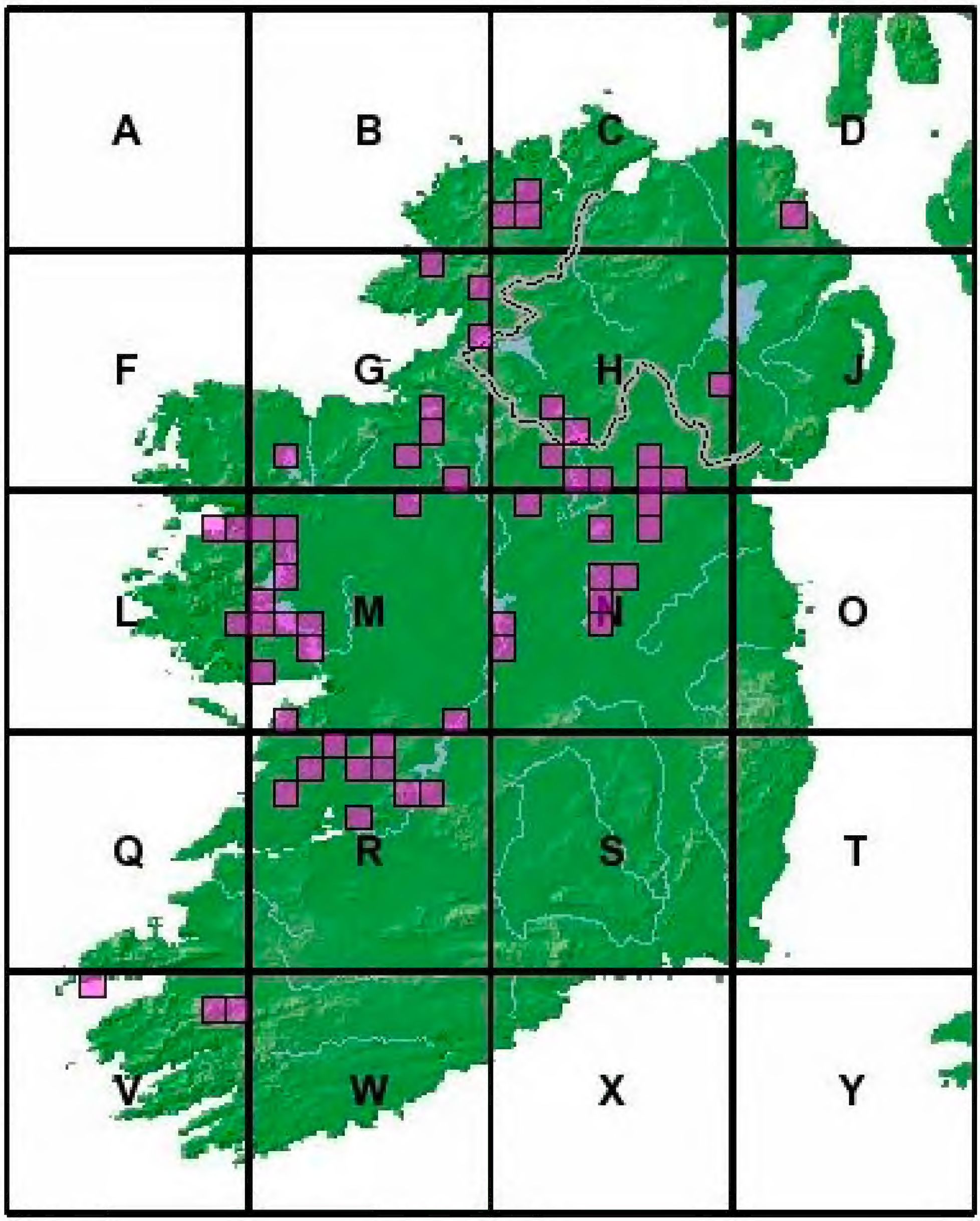

FIGURE 42. The known 10km distribution of *Cyrnus flavidus* McLachlan, 1864.
Habitat: lakes, ponds and slow flowing rivers.
Flight period: May – September.

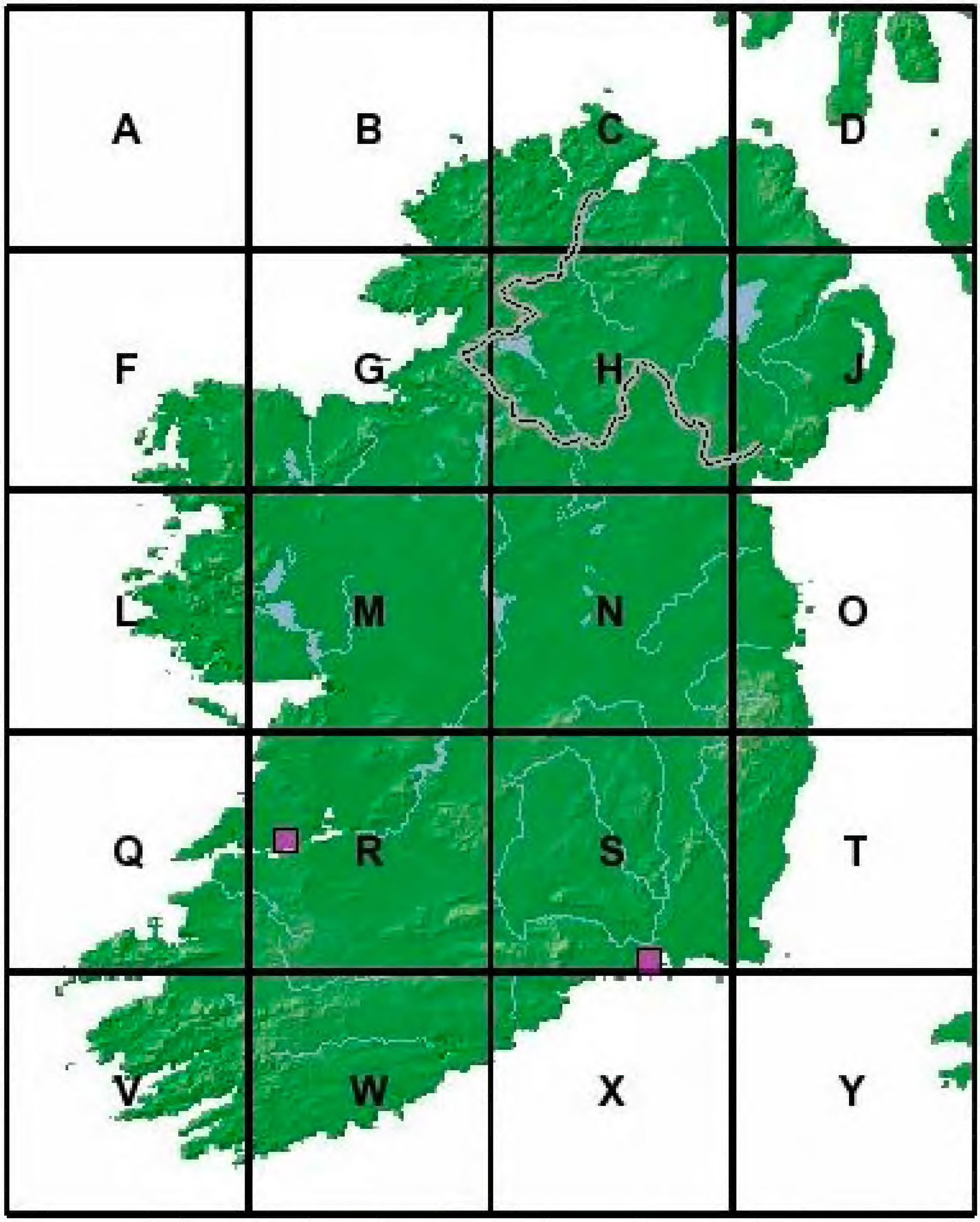

FIGURE 43. The known 10km distribution of *Cyrnus insolutus* McLachlan, 1878.
Habitat: lakes and ponds.
Flight period: July – August.

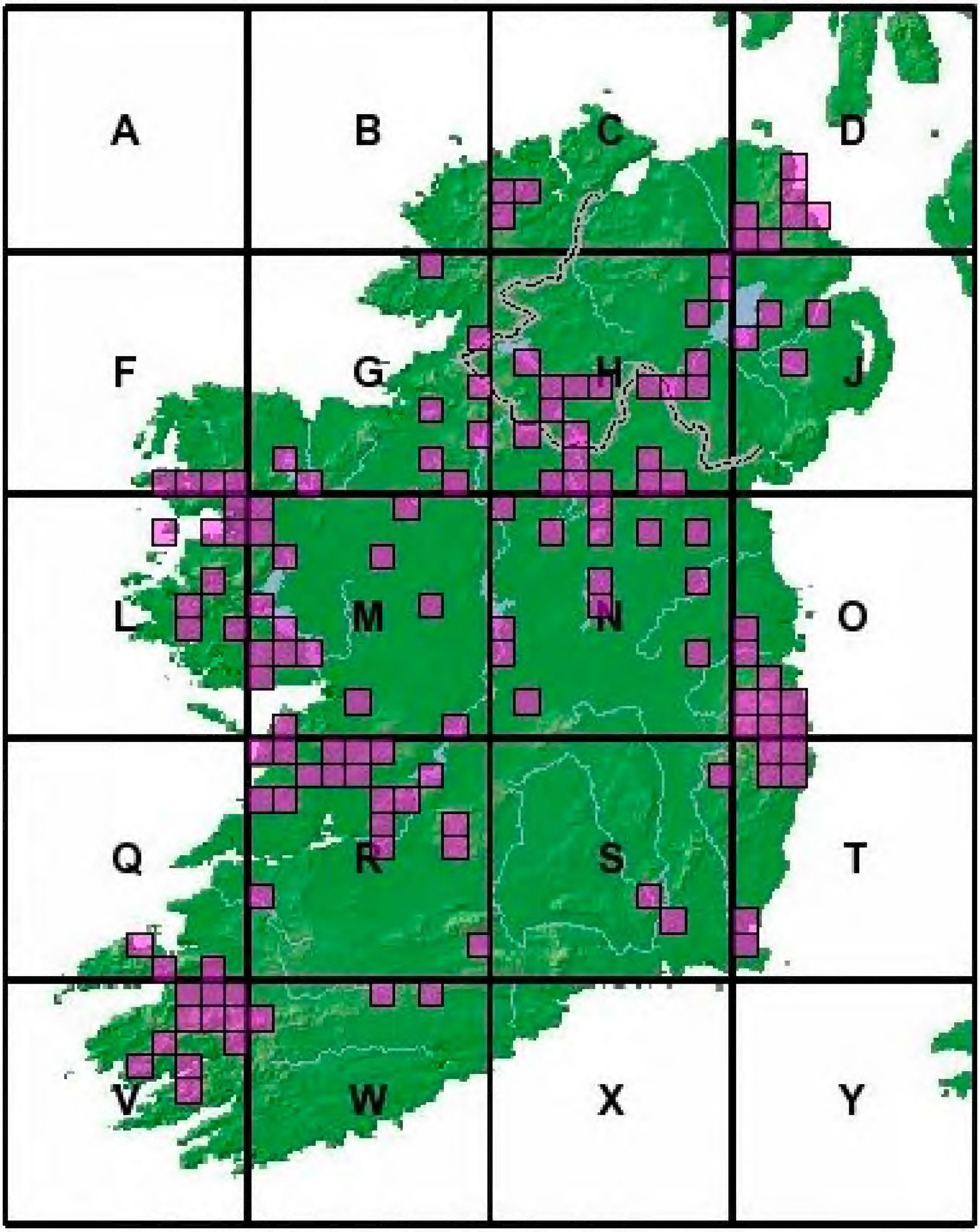

FIGURE 44. The known 10km distribution of *Cyrnus trimaculatus* (Curtis, 1834).
Habitat: bog pools, lakes, ponds, rivers, streams and turloughs.
Flight period: May – October.

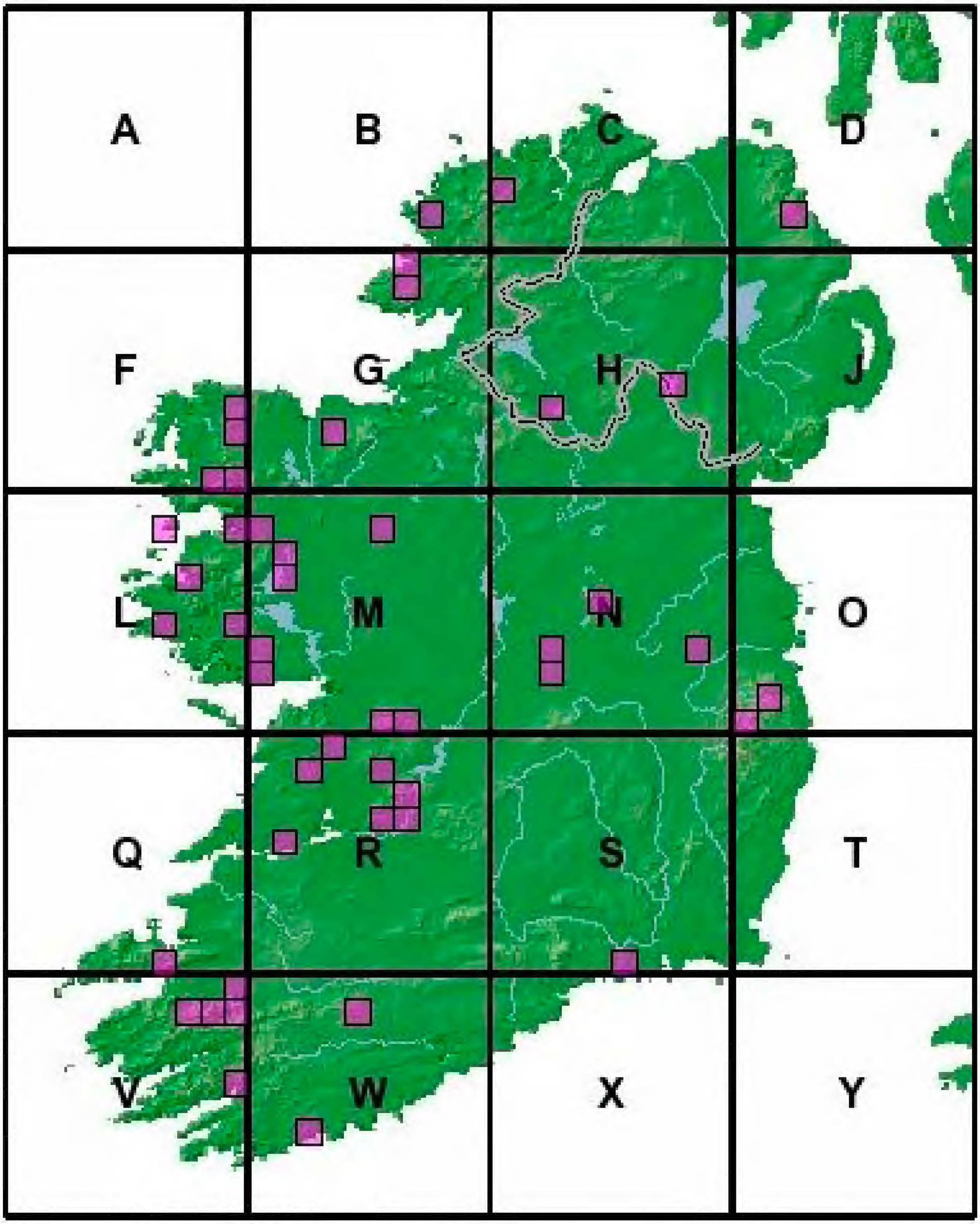

FIGURE 45. The known 10km distribution of *Holocentropus dubius* (Rambur, 1842).
Habitat: bog and fen pools, lakes, ponds and slow flowing rivers.
Flight period: May – July.

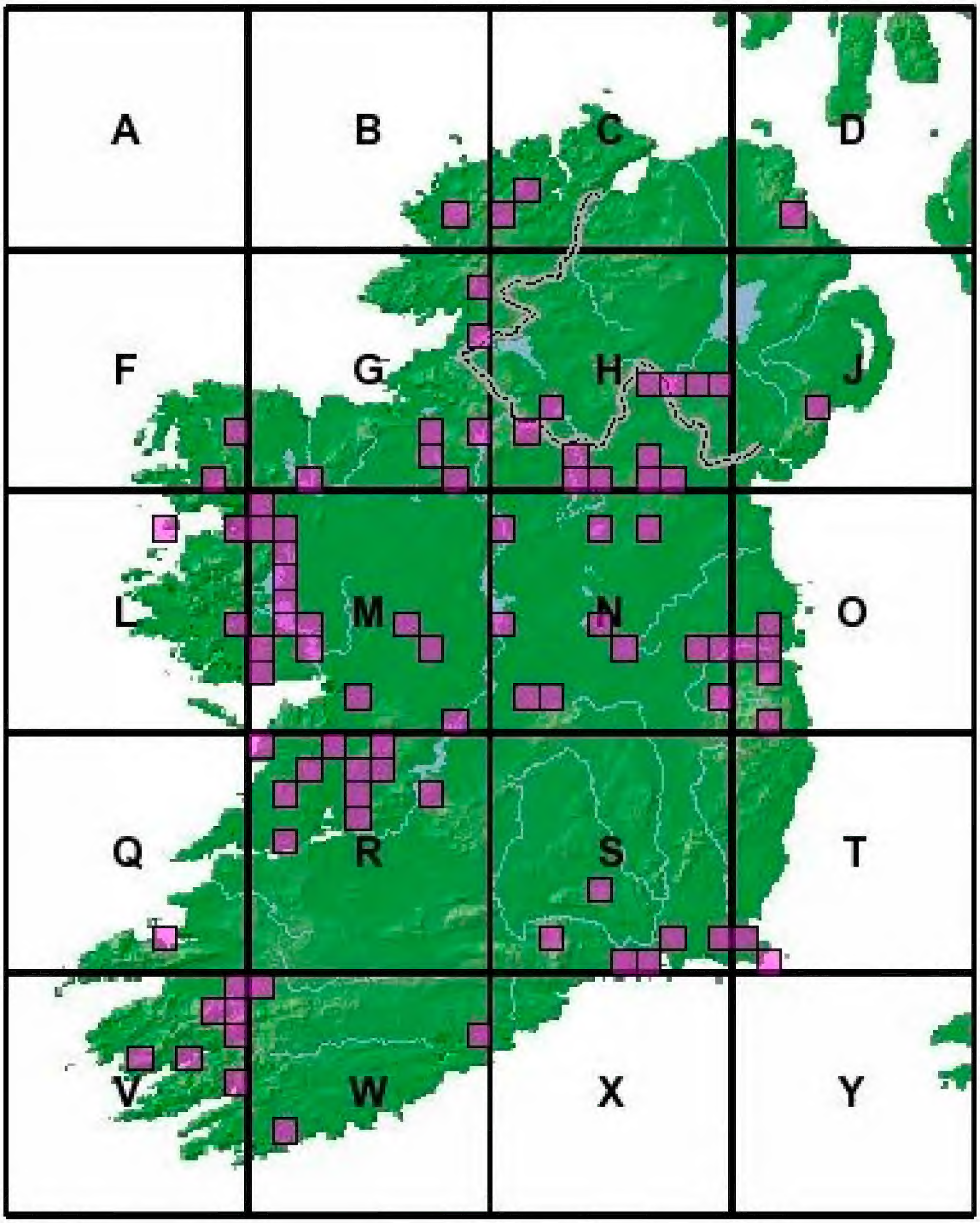

FIGURE 46. The known 10km distribution of *Holocentropus picicornis* (Stephens, 1836).
Habitat: bog pools, ponds, lakes, reservoirs and slow flowing areas in rivers.
Flight period: May – September.

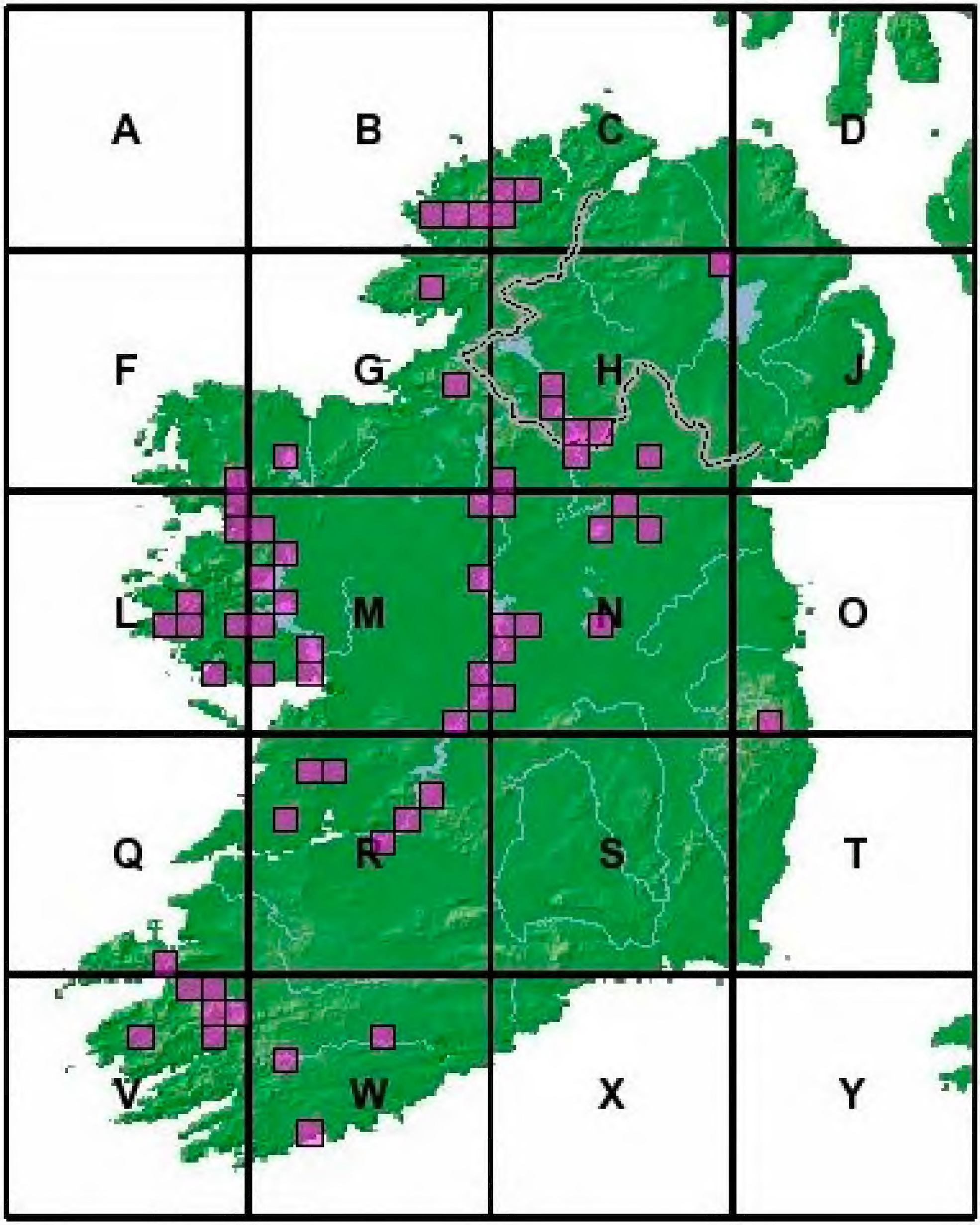

FIGURE 47. The known 10km distribution of *Neureclipsis bimaculata* (Linnaeus, 1758).
Habitat: rivers and streams exiting lakes and ponds, also lakes and slow flowing big rivers.
Flight period: May – October.

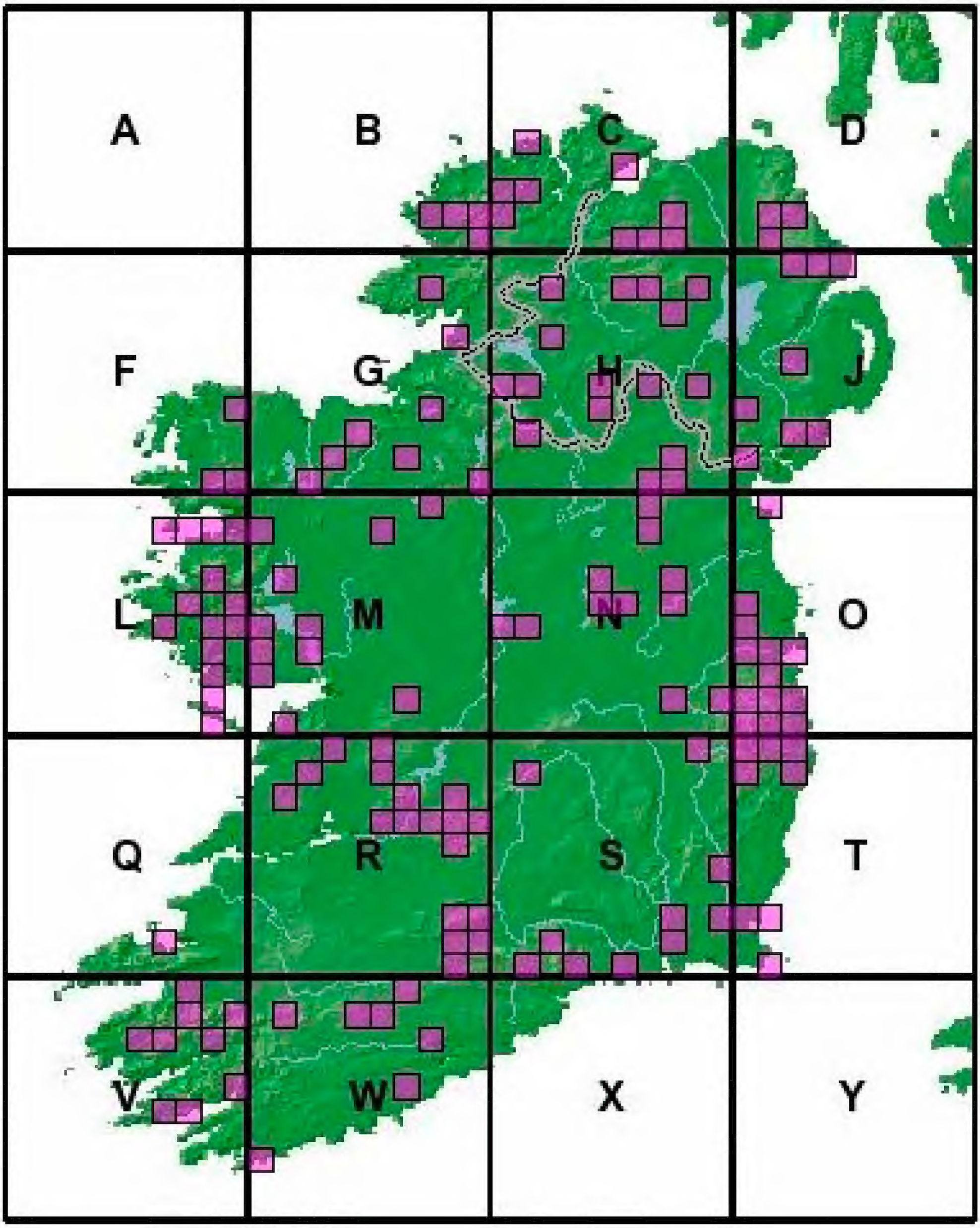

FIGURE 48. The known 10km distribution of *Plectrocnemia conspersa* (Curtis, 1834). **Habitat:** bog pools and hollows, drainage canals, marshes, rivers, streams, rocky shores in upland lakes and waterfalls. **Flight period:** April – December.

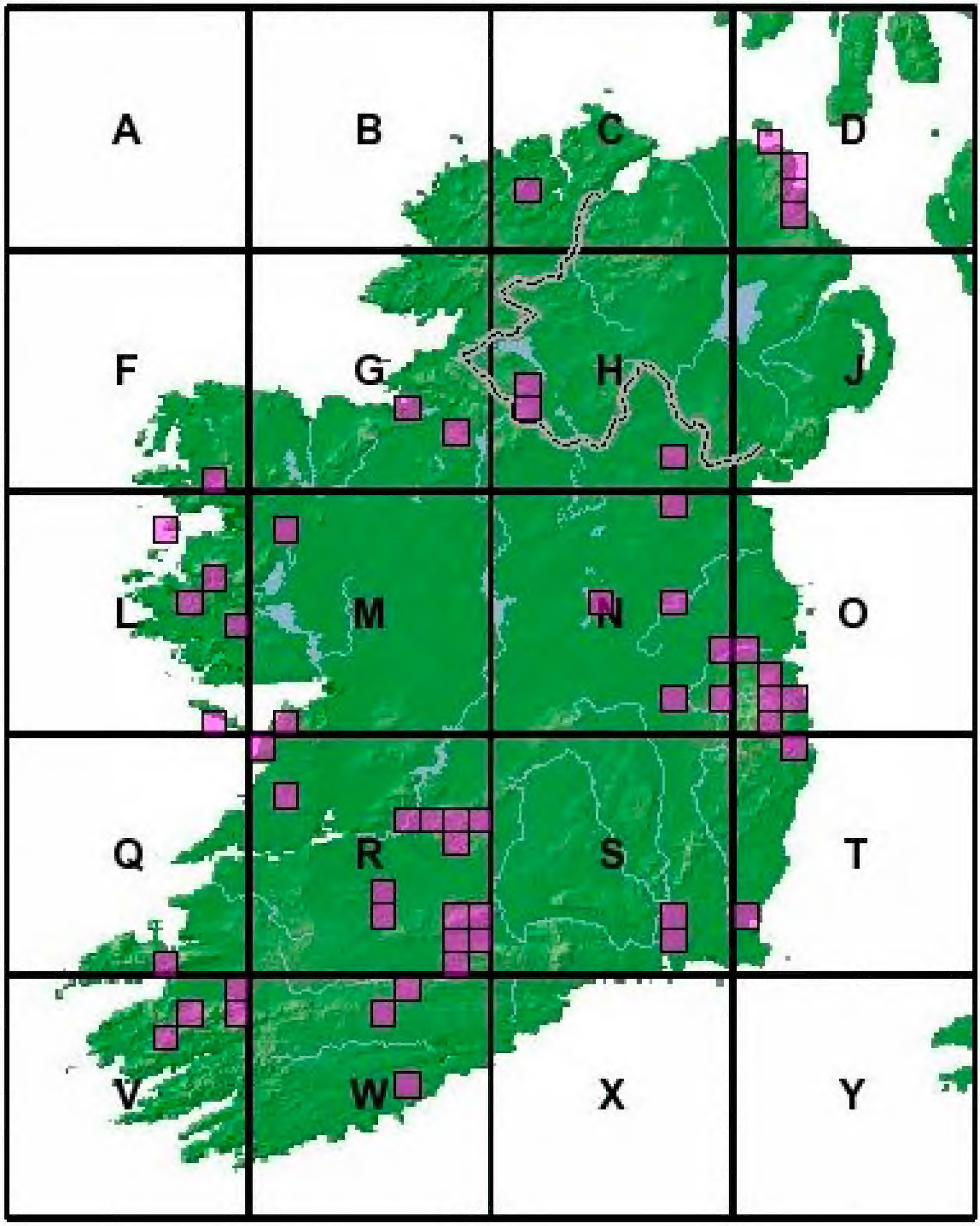

FIGURE 49. The known 10km distribution of *Plectrocnemia geniculata* McLachlan, 1871. **Habitat:** bog pools and hollows, small streams and trickles but also some rivers particularly upland ones. **Flight period:** April – August.

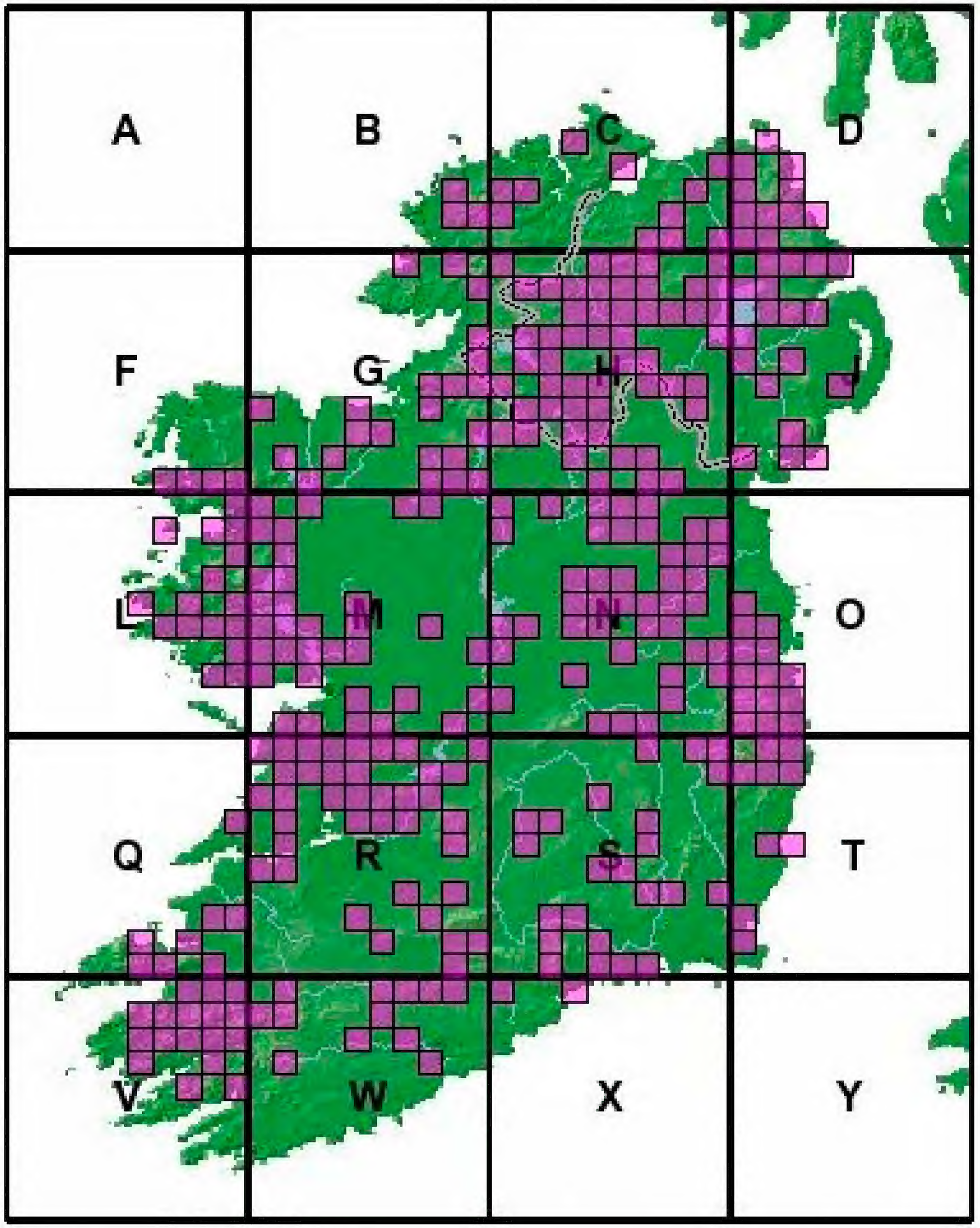

FIGURE 50. The known 10km distribution of *Polycentropus flavomaculatus* (Pictet, 1834).
Habitat: bogs, lakes, ponds, rivers and streams.
Flight period: April – October.

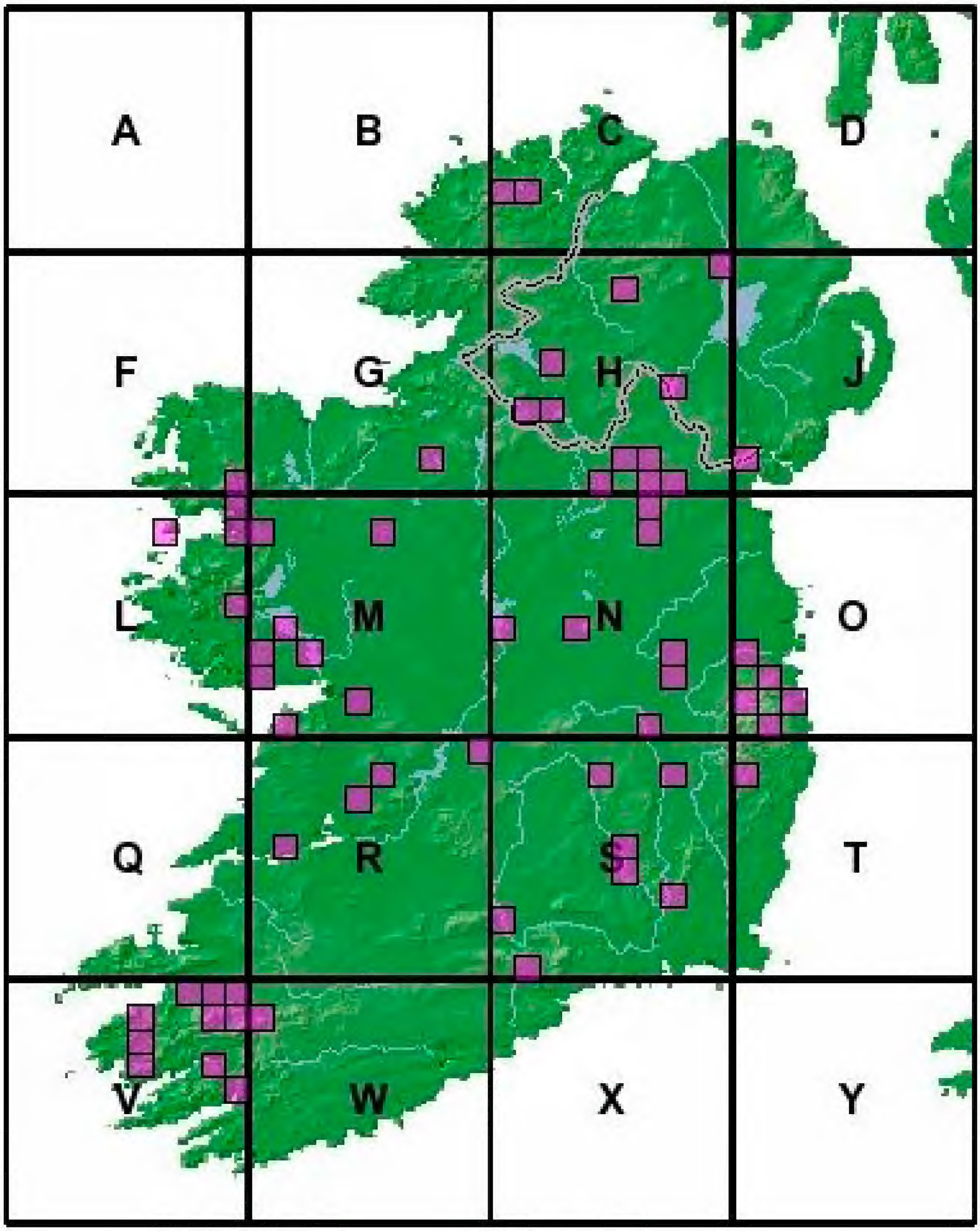

FIGURE 51. The known 10km distribution of *Polycentropus irroratus* (Curtis, 1835).
Habitat: bogs, lakes, rivers and streams.
Flight period: June – September.

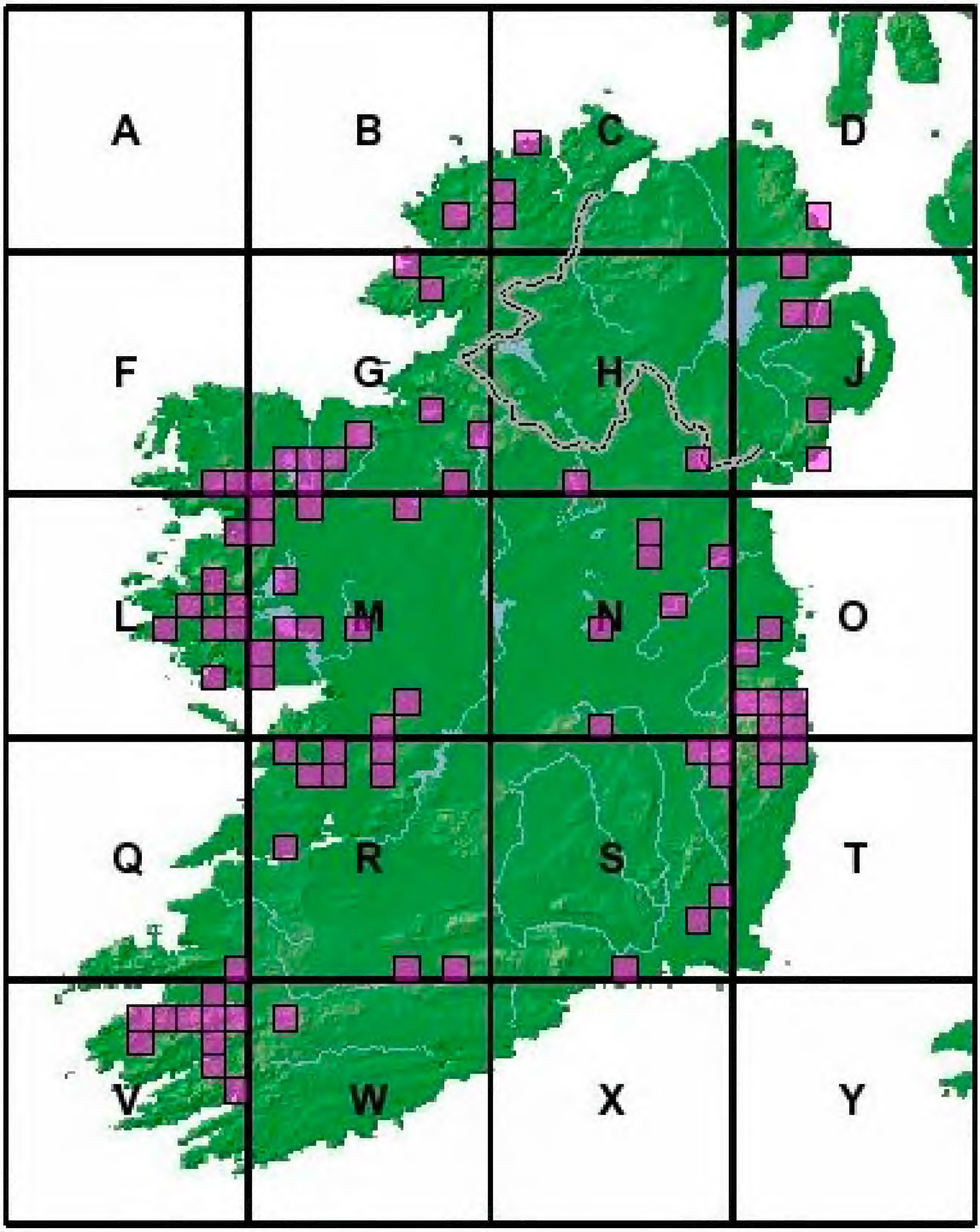

FIGURE 52. The known 10km distribution of *Polycentropus kingi* McLachlan, 1881.
Habitat: lakes, rivers and streams.
Flight period: (May), July – September.

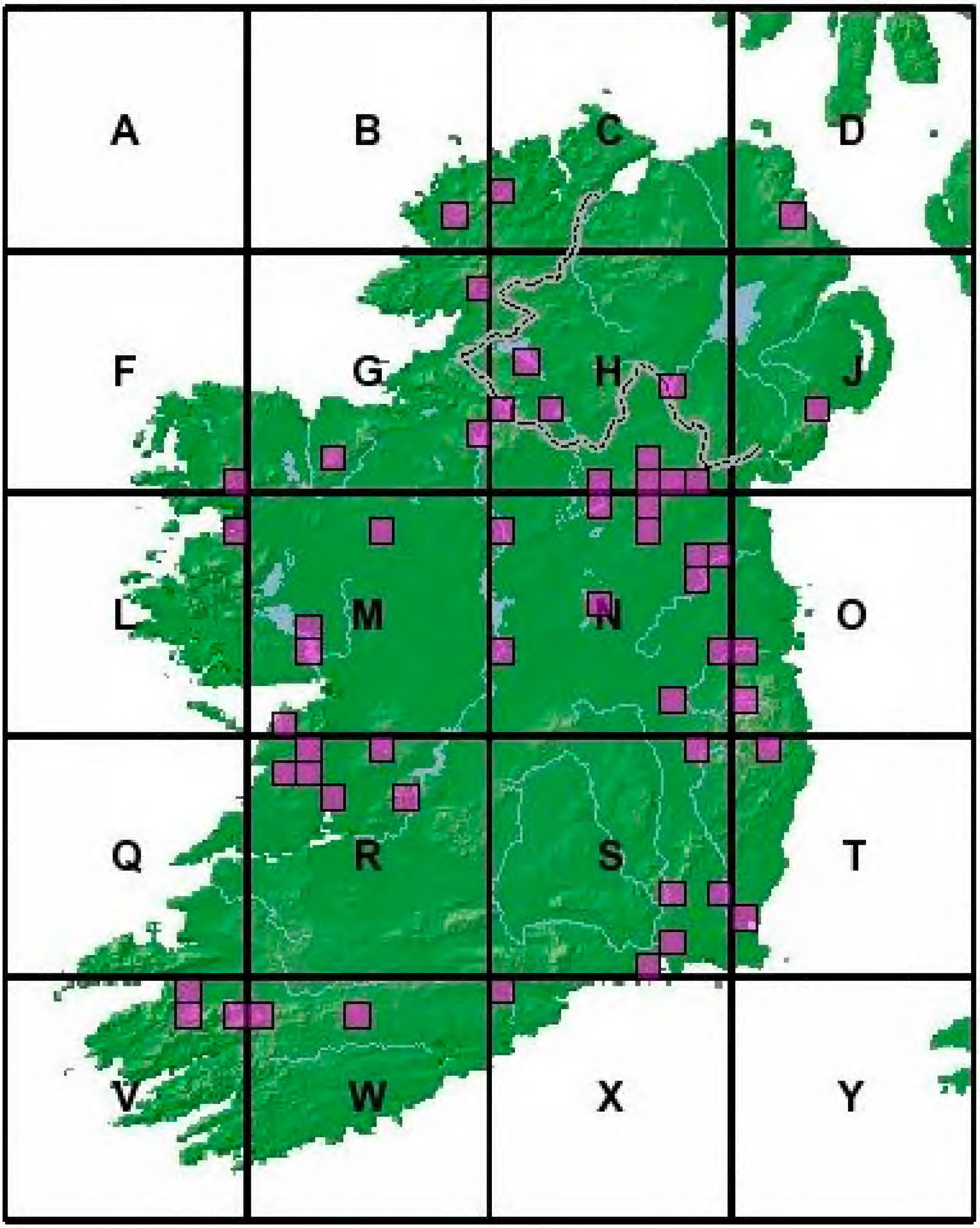

FIGURE 53. The known 10km distribution of *Lype phaeopa* (Stephens, 1836).
Habitat: fens, kettle holes, lakes, ponds, rivers and streams.
Flight period: April – September.

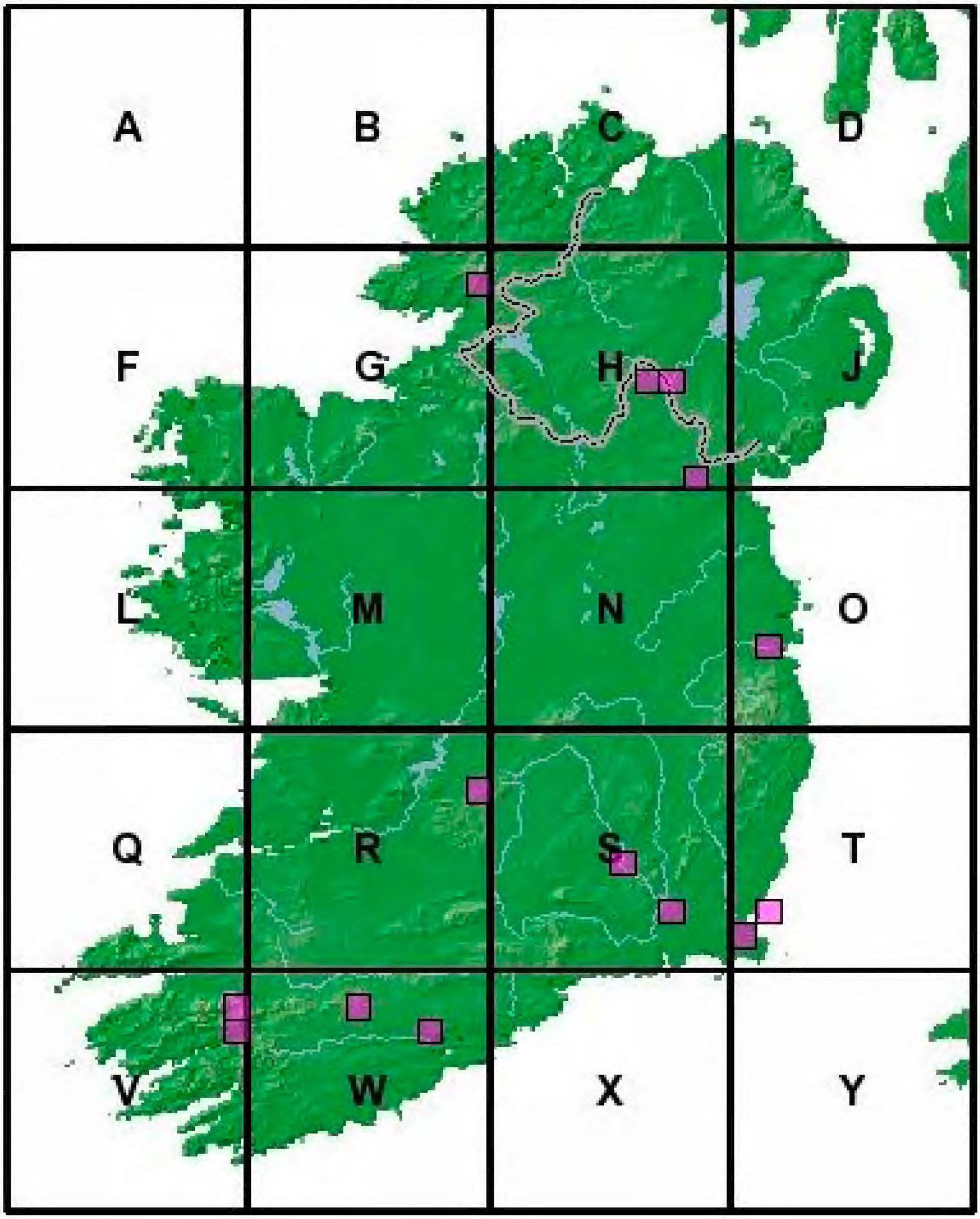

FIGURE 54. The known 10km distribution of *Lype reducta* (Hagen, 1868).
Habitat: lakes, flowing marshes, rivers and streams.
Flight period: (April), June – August.

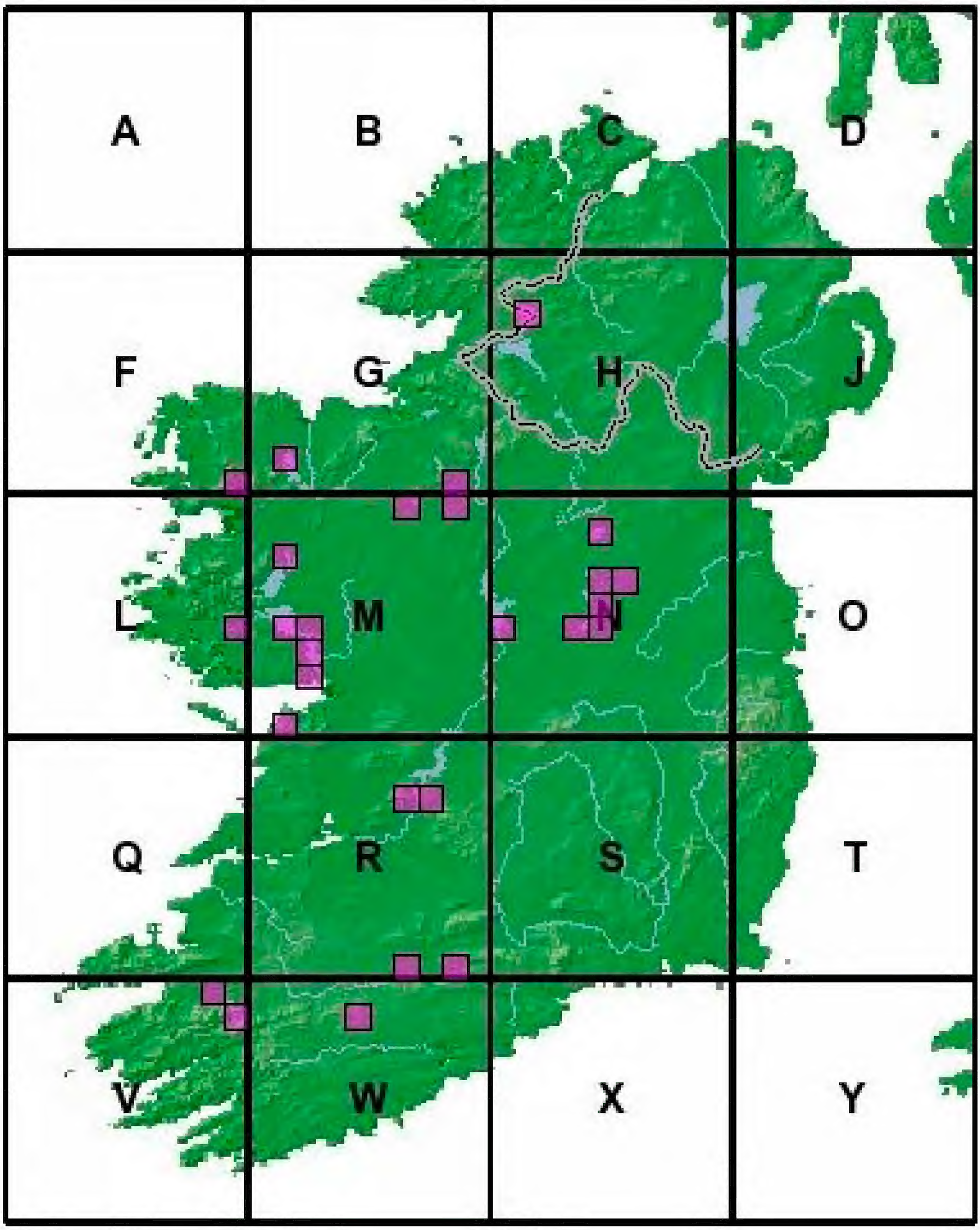

FIGURE 55. The known 10km distribution of *Psychomyia fragilis* (Pictet, 1834).
Habitat: lakes, rivers and streams.
Flight period: June – September.

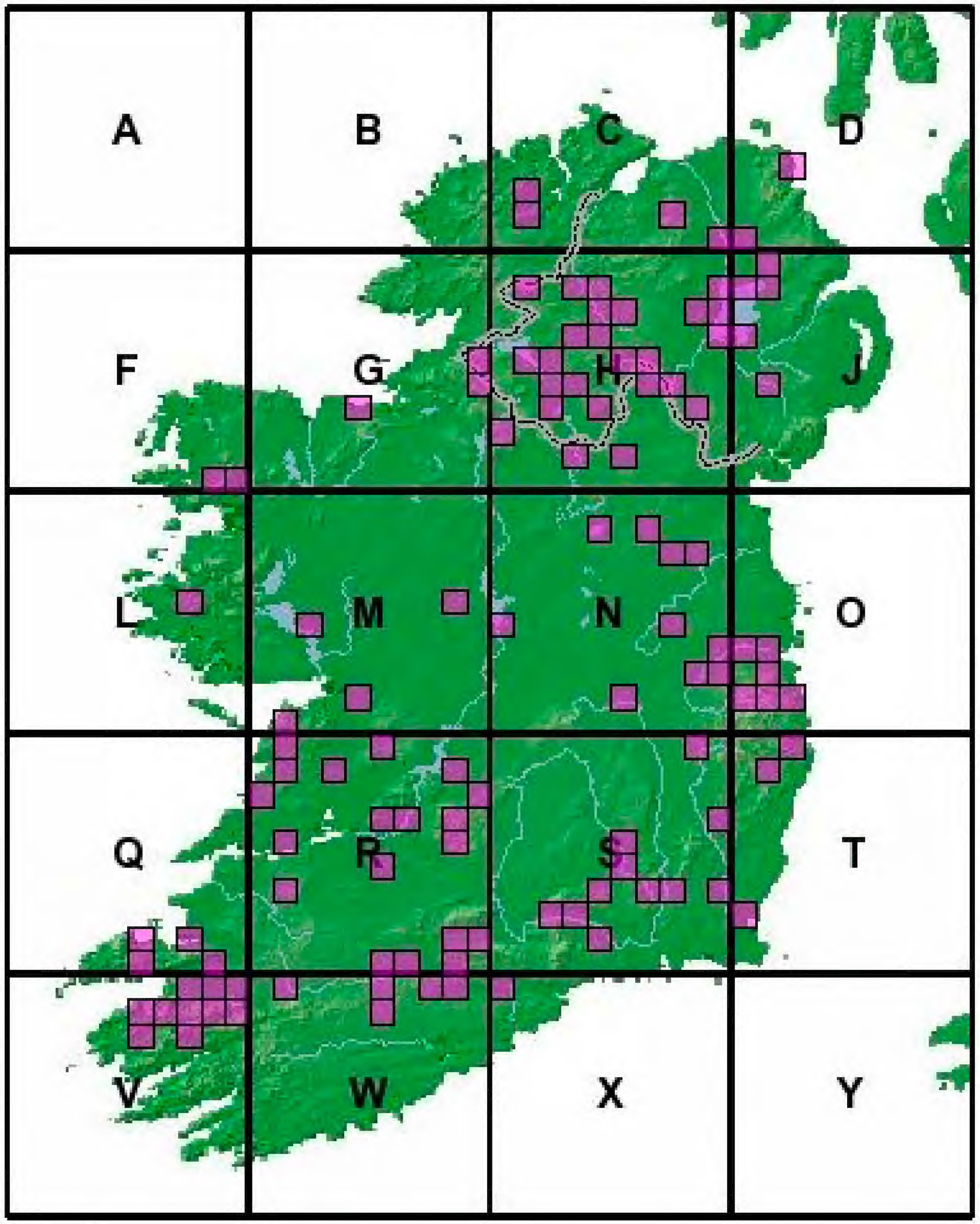

FIGURE 56. The known 10km distribution of *Psychomyia pusilla* (Fabricius, 1781).
Habitat: rivers and streams, with some lake records including Lough Neagh.
Flight period: May – September.

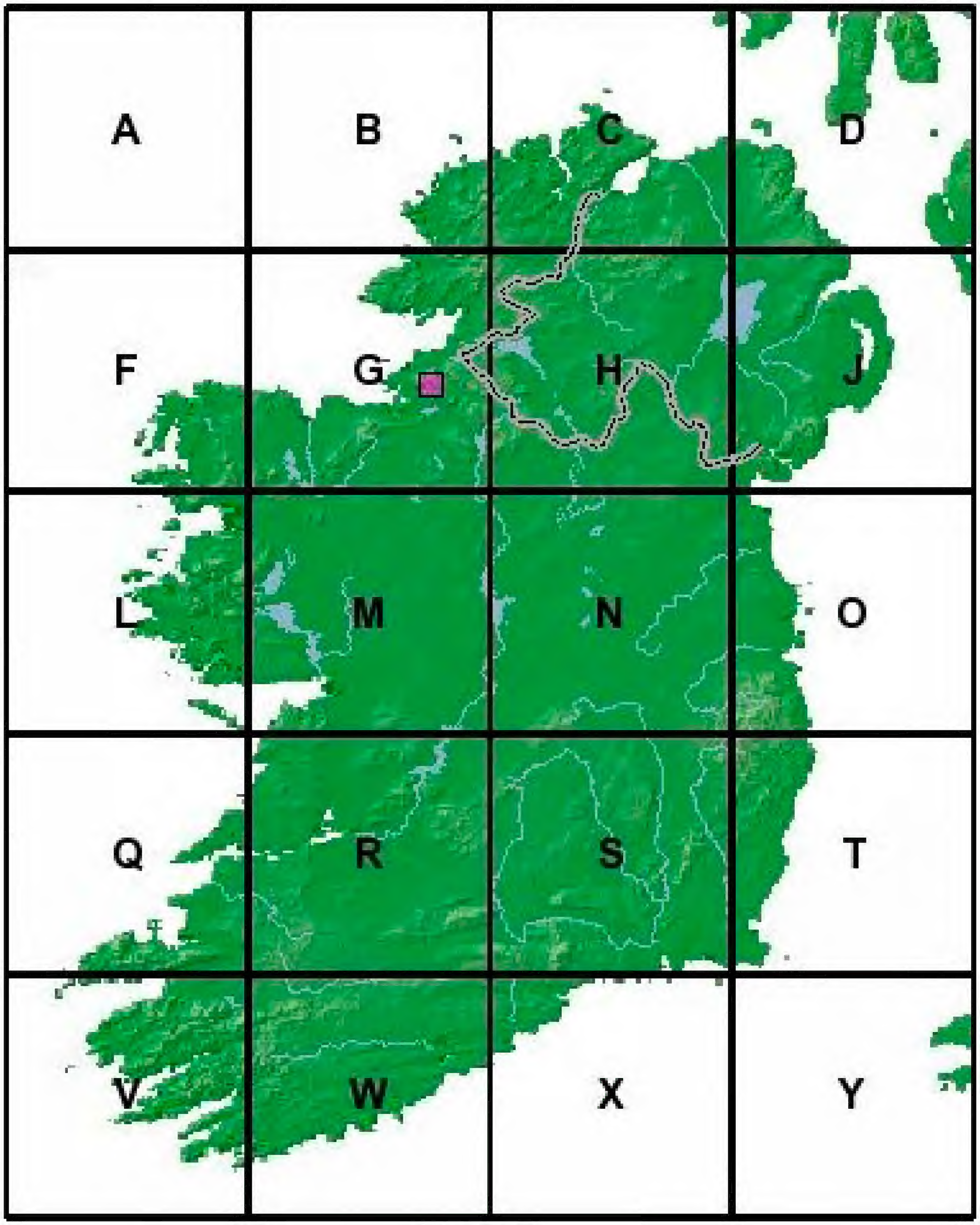

FIGURE 57. The known 10km distribution of *Tinodes dives* (Pictet, 1834).
Habitat: calcareous streams.
Flight period: July (Britain: May – August).

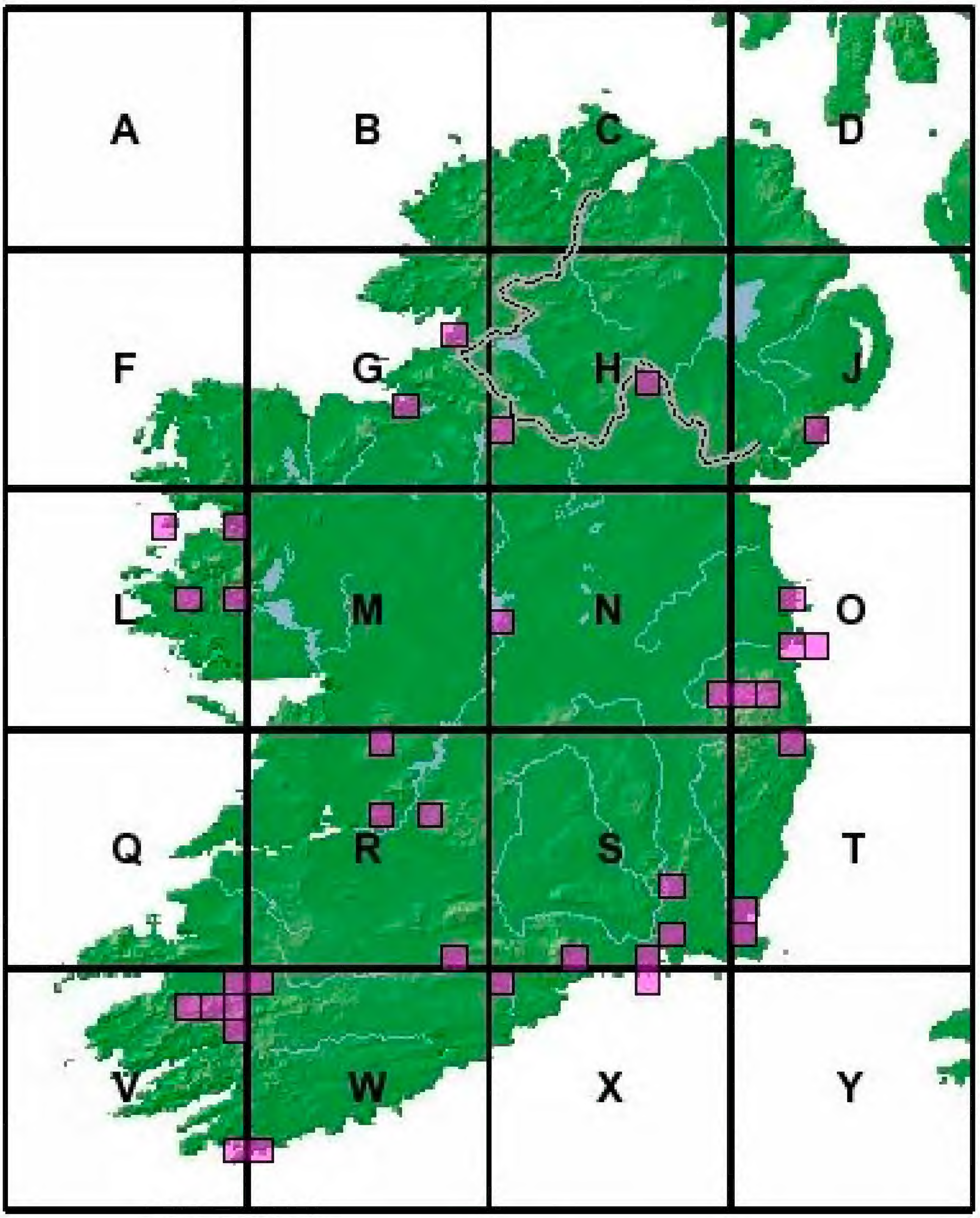

FIGURE 58. The known 10km distribution of *Tinodes maclachlani* Kimmins, 1966. **Habitat:** trickling rock faces by waterfalls and on cliffs including coastal ones, also in small streams. **Flight period:** May – August.

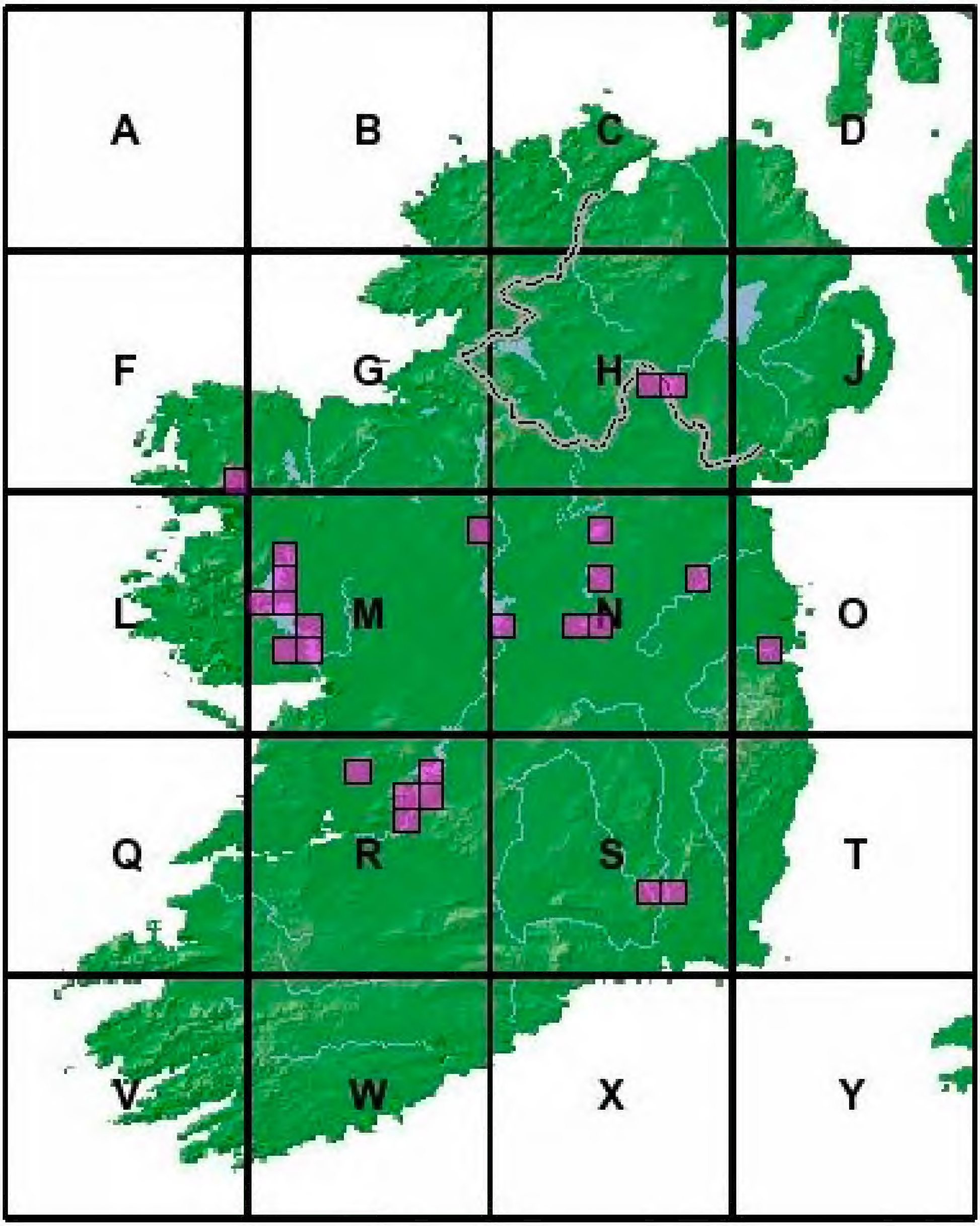

FIGURE 59. The known 10km distribution of *Tinodes maculicornis* (Pictet, 1834).
Habitat: calcareous lakes, rivers and streams.
Flight period: July – September.

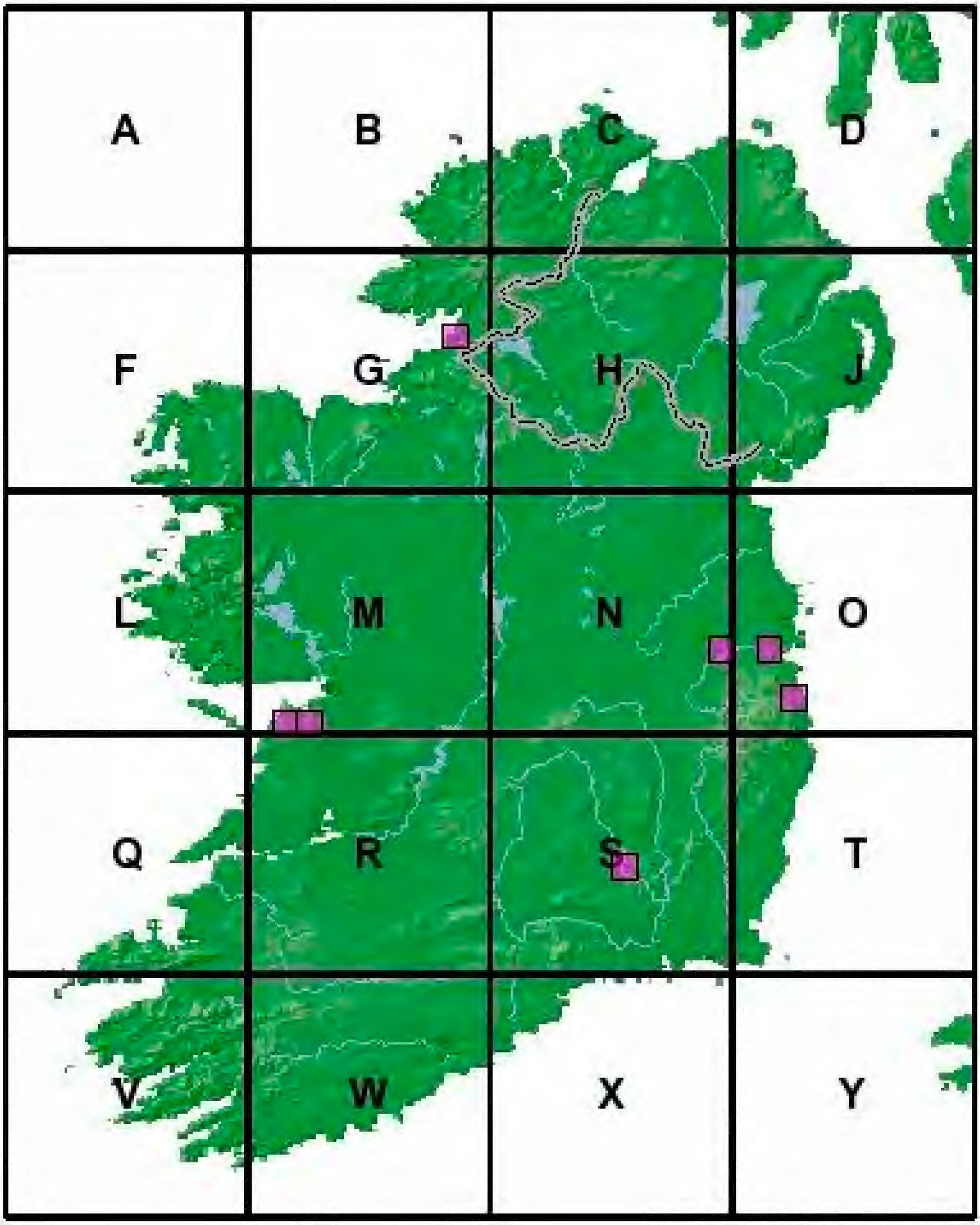

FIGURE 60. The known 10km distribution of *Tinodes unicolor* (Pictet, 1834).
Habitat: calcareous small streams which are depositing tufa.
Flight period: July – August.

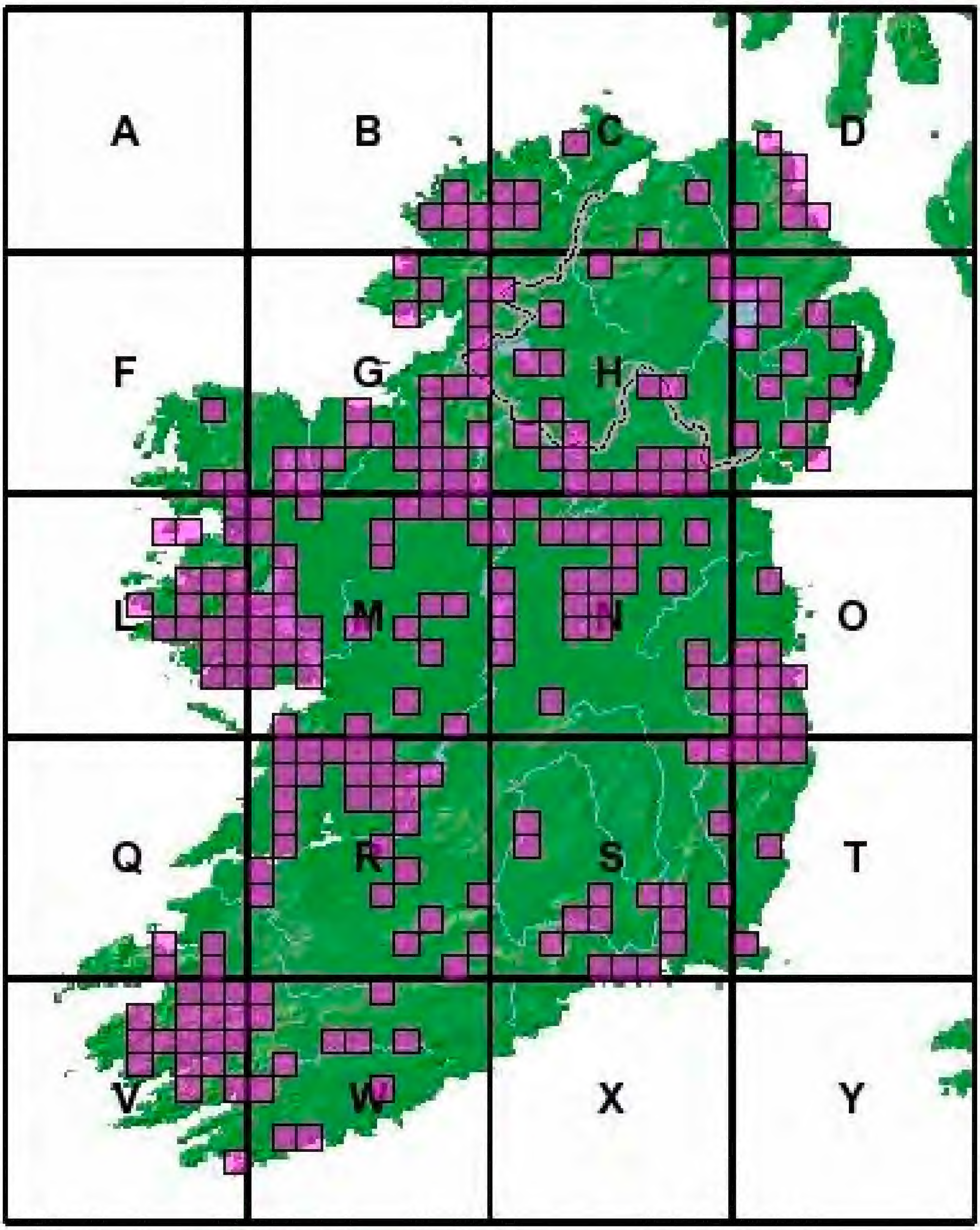

FIGURE 61. The known 10km distribution of *Tinodes waeneri* (Linnaeus, 1758).
Habitat: canals, lakes, rivers and streams.
Flight period: April – November.

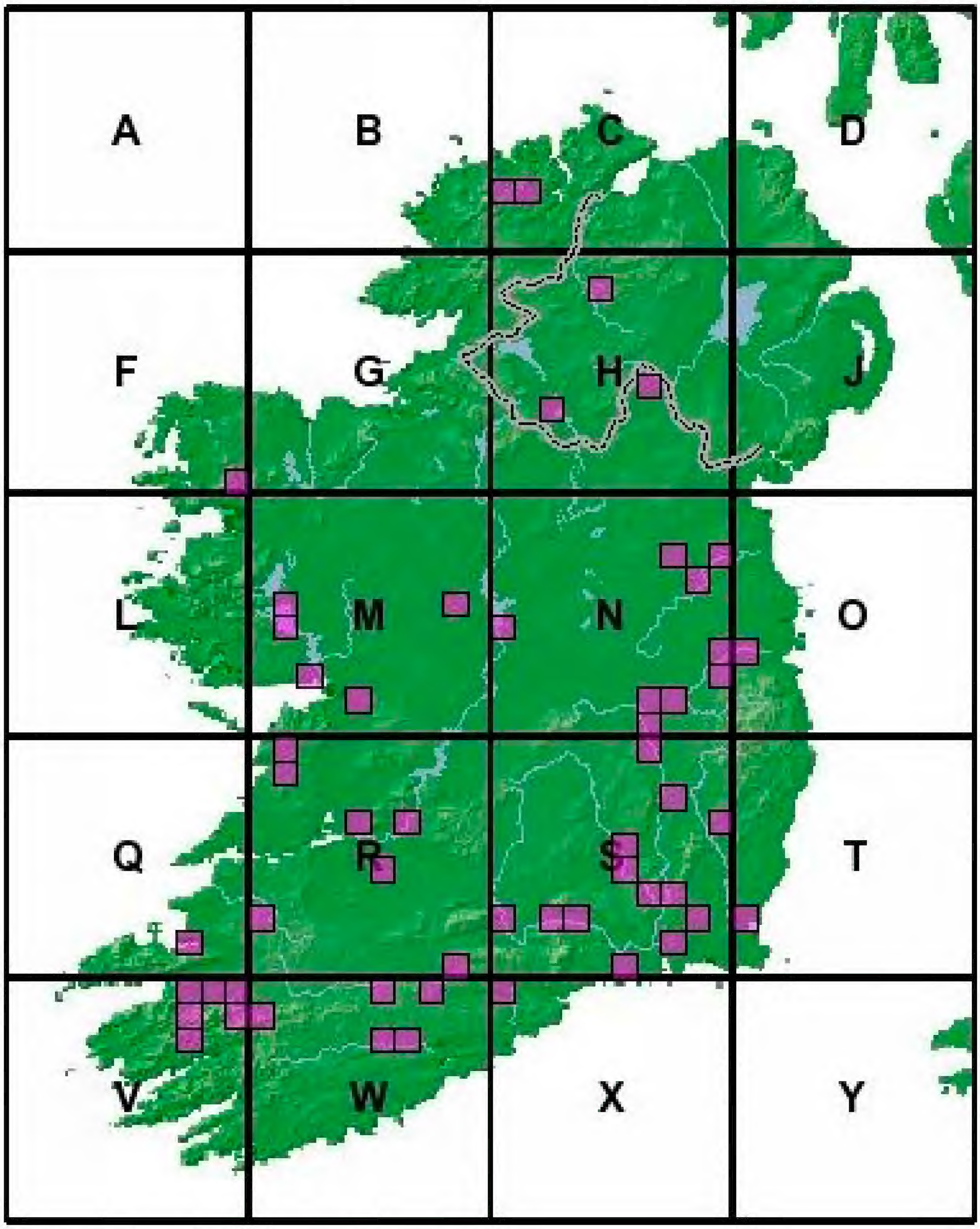

FIGURE 62. The known 10km distribution of *Cheumatopsyche lepida* (Pictet, 1834).
Habitat: large streams and rivers.
Flight period: June – October.

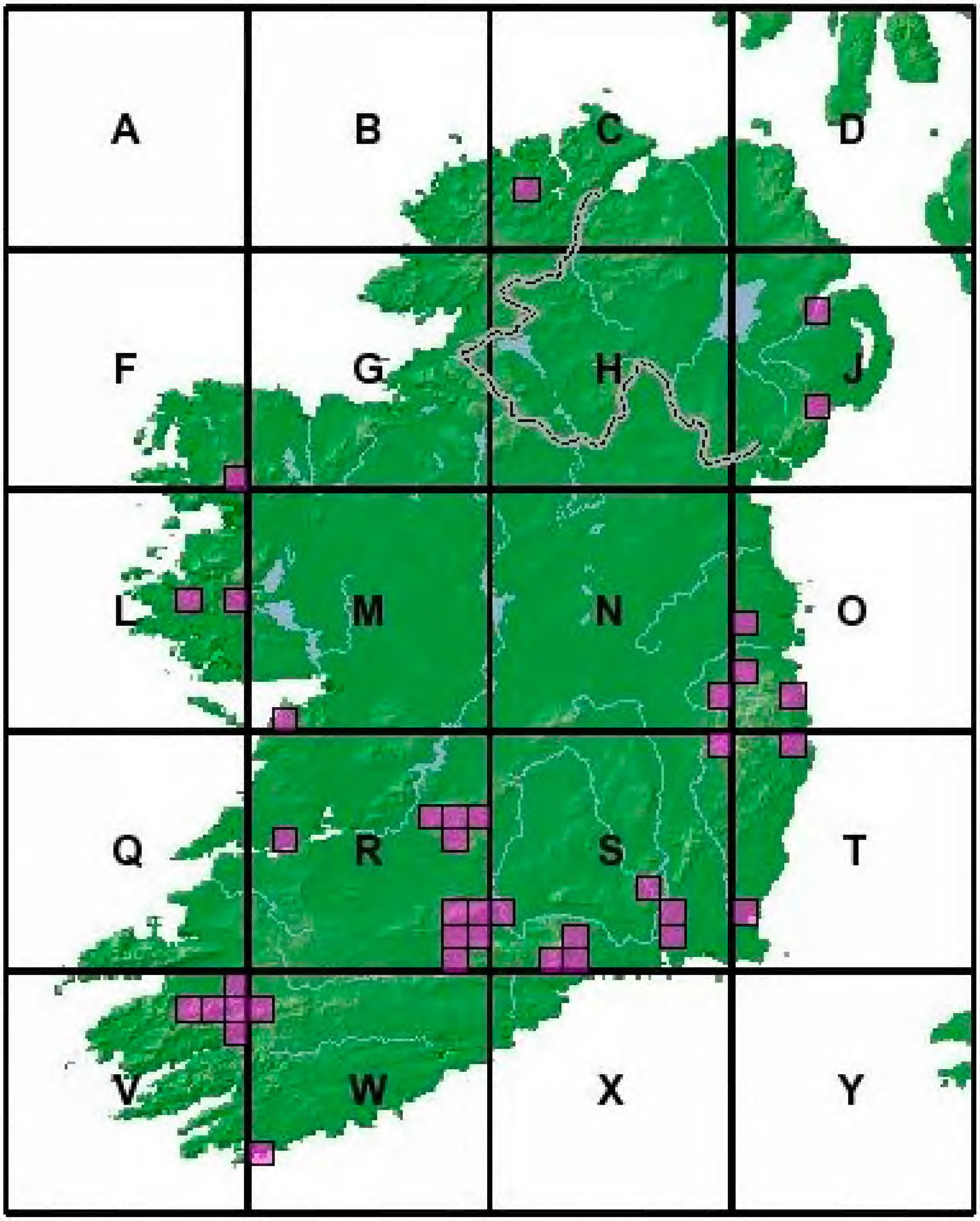

FIGURE 63. The known 10km distribution of *Diplectrona felix* McLachlan, 1878.
Habitat: streams and the upper reaches of small rivers which do not become warm in the summer. **Flight period:** May – August.

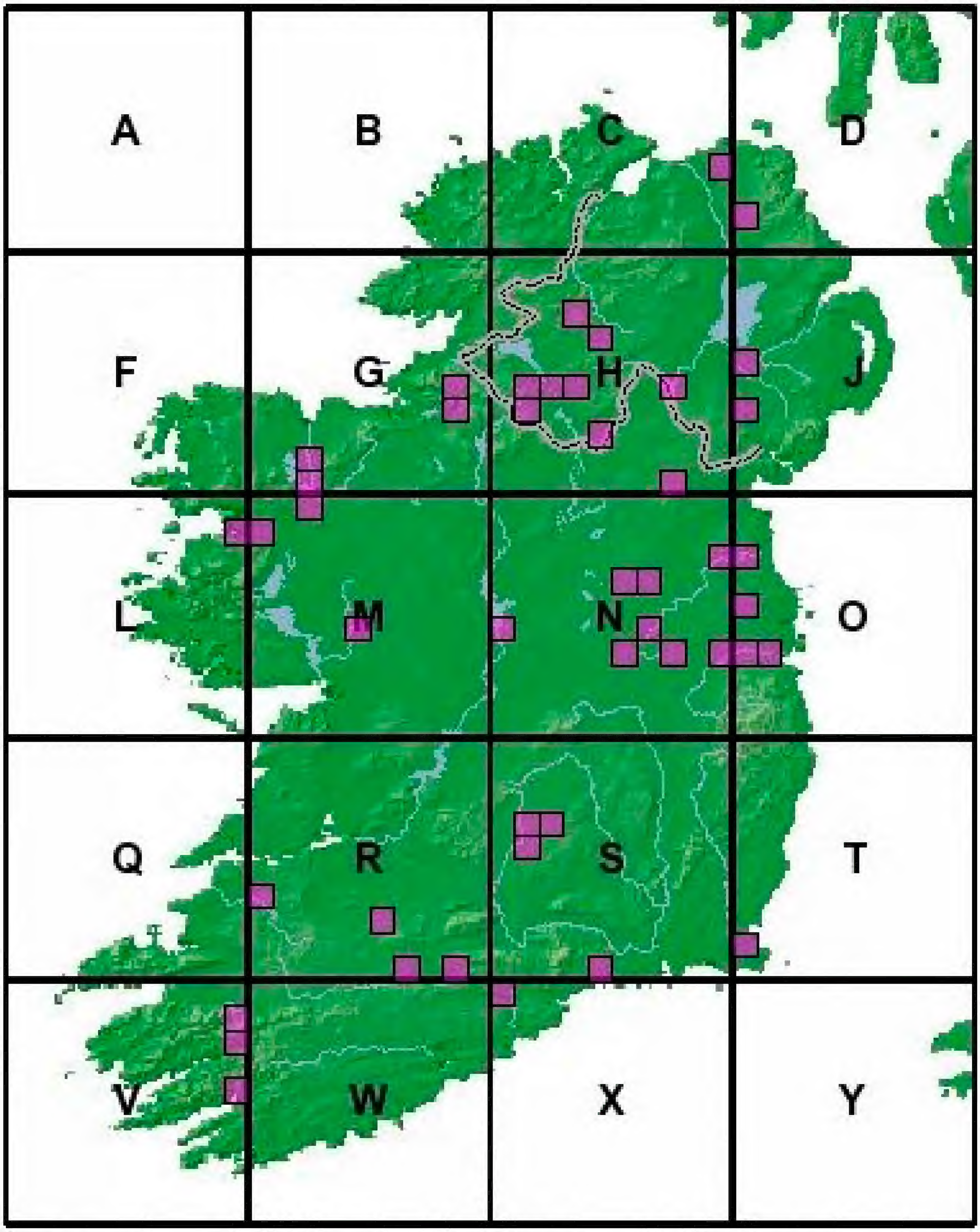

FIGURE 64. The known 10km distribution of *Hydropsyche angustipennis* (Curtis, 1834).
Habitat: streams and rivers. These can be the outlets of standing water such as lakes.
Flight period: June – September.

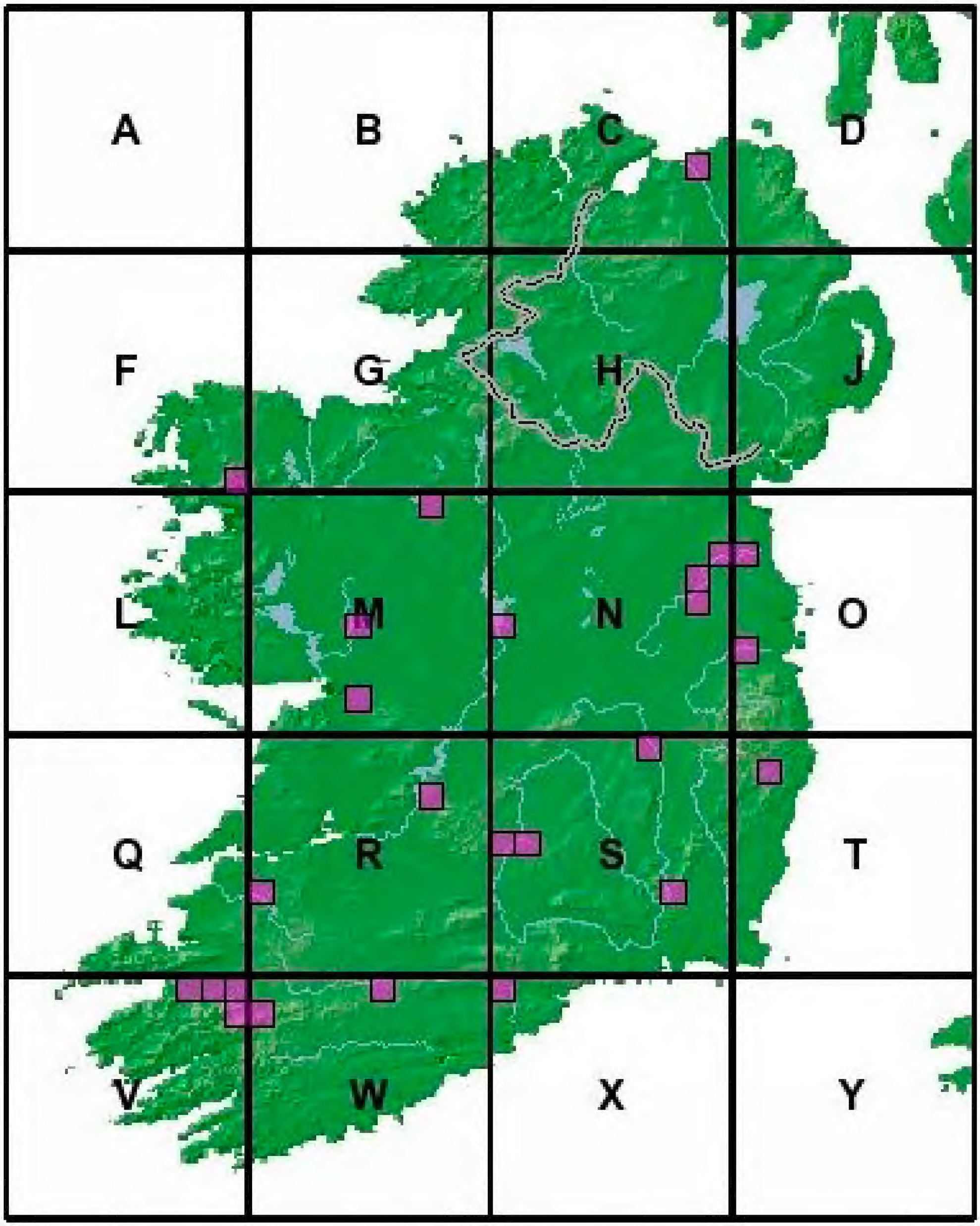

FIGURE 65. The known 10km distribution of *Hydropsyche contubernalis* McLachlan, 1865.
Habitat: rivers.
Flight period: May – September.

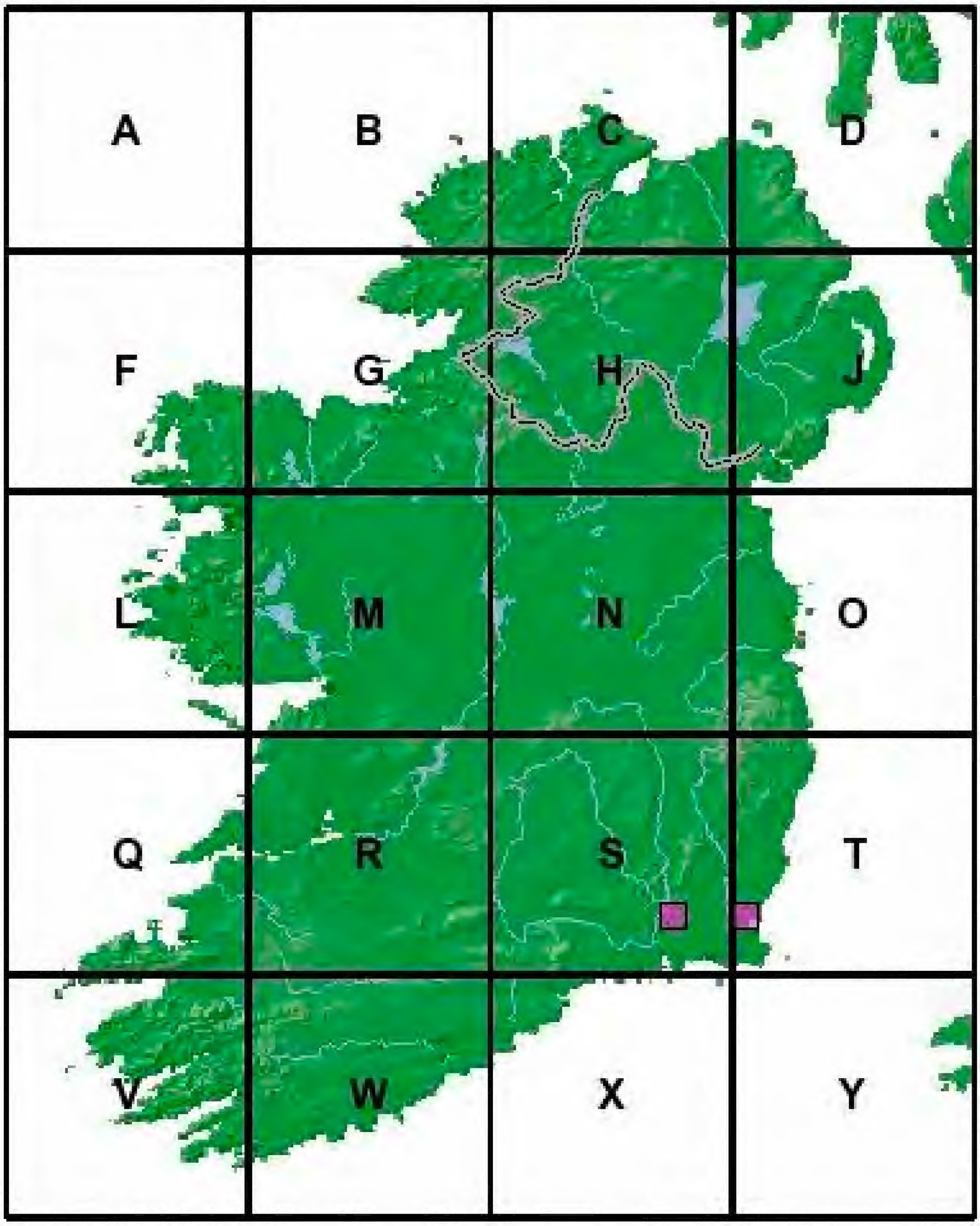

FIGURE 66. The known 10km distribution of *Hydropsyche fulvipes* (Curtis, 1834).
Habitat: streams.
Flight period: August (Britain: May-September).

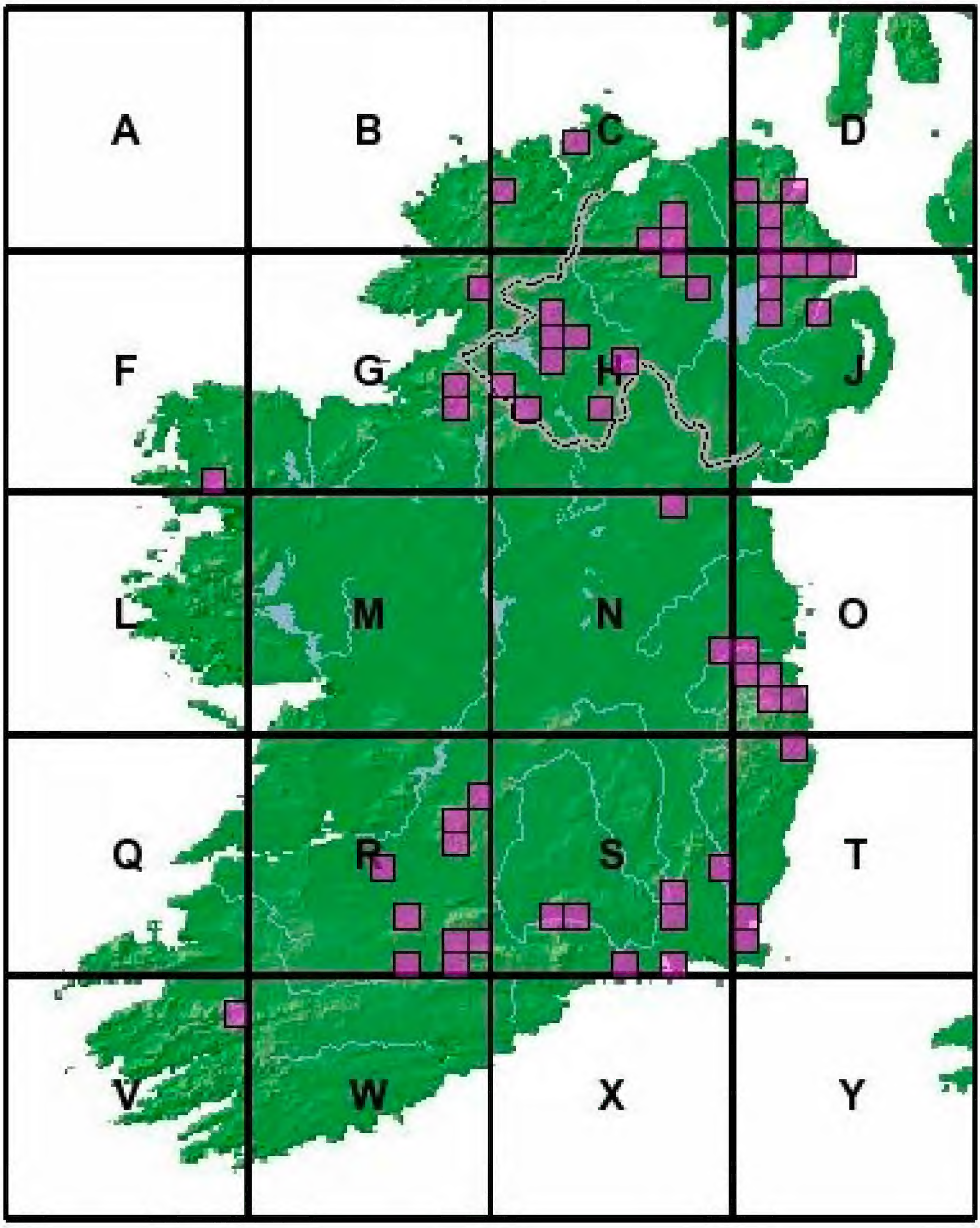

FIGURE 67. The known 10km distribution of *Hydropsyche instabilis* (Curtis, 1834).
Habitat: streams and small rivers.
Flight period: June – September.

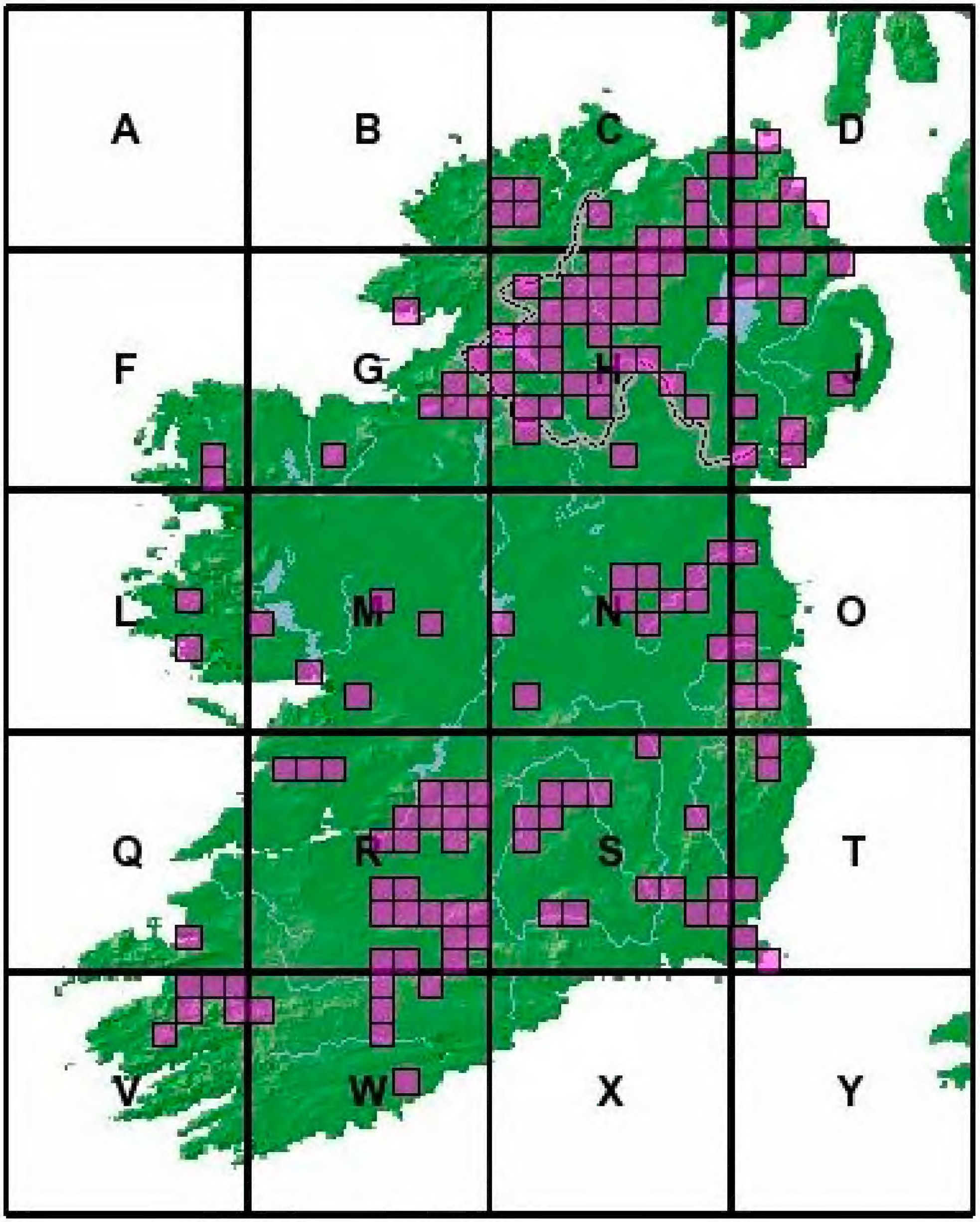

FIGURE 68. The known 10km distribution of *Hydropsyche pellucidula* (Curtis, 1834).
Habitat: rivers and streams.
Flight period: May – September.

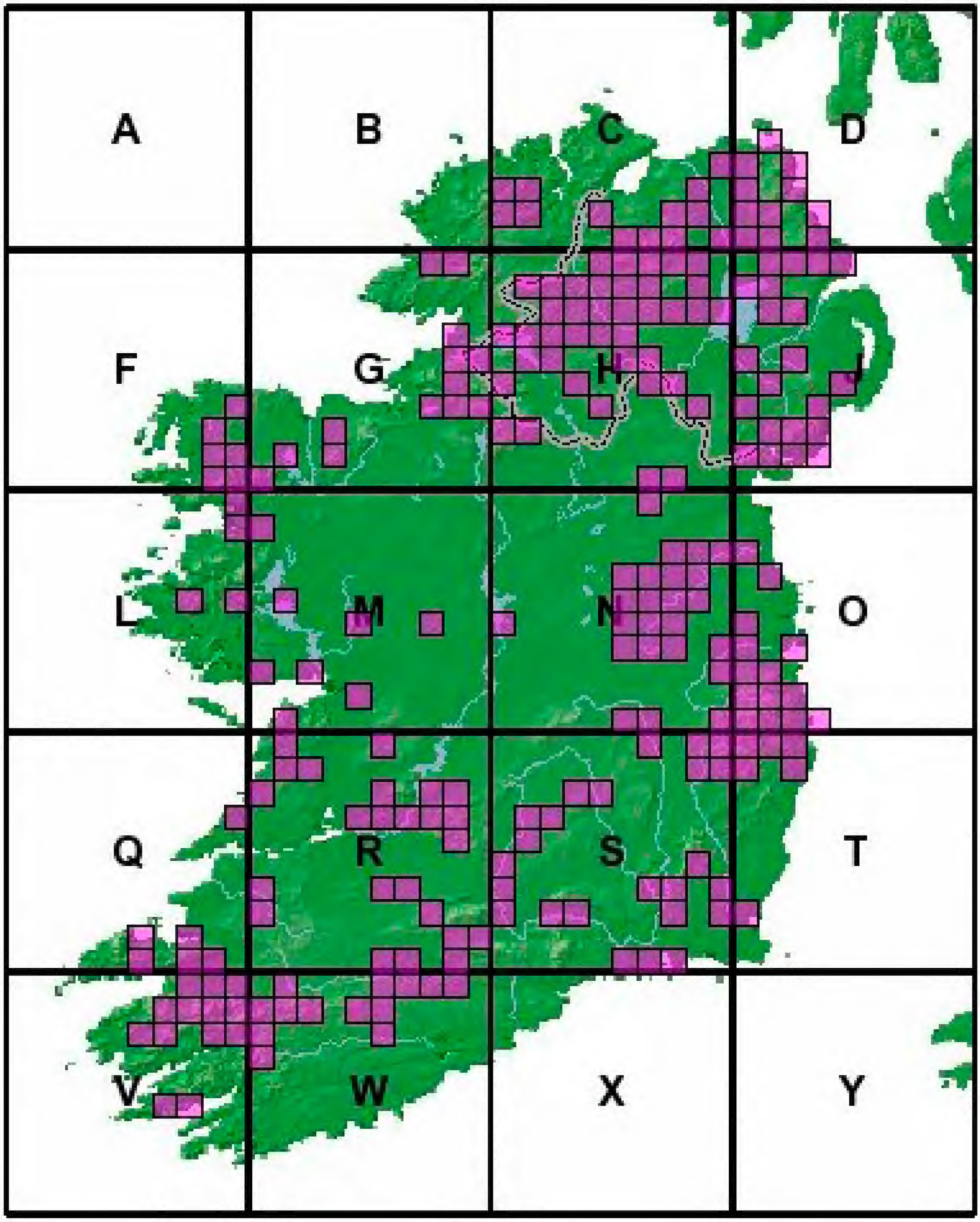

FIGURE 69. The known 10km distribution of *Hydropsyche siltalai* Döhler, 1963.
Habitat: rivers and streams.
Flight period: June – September.

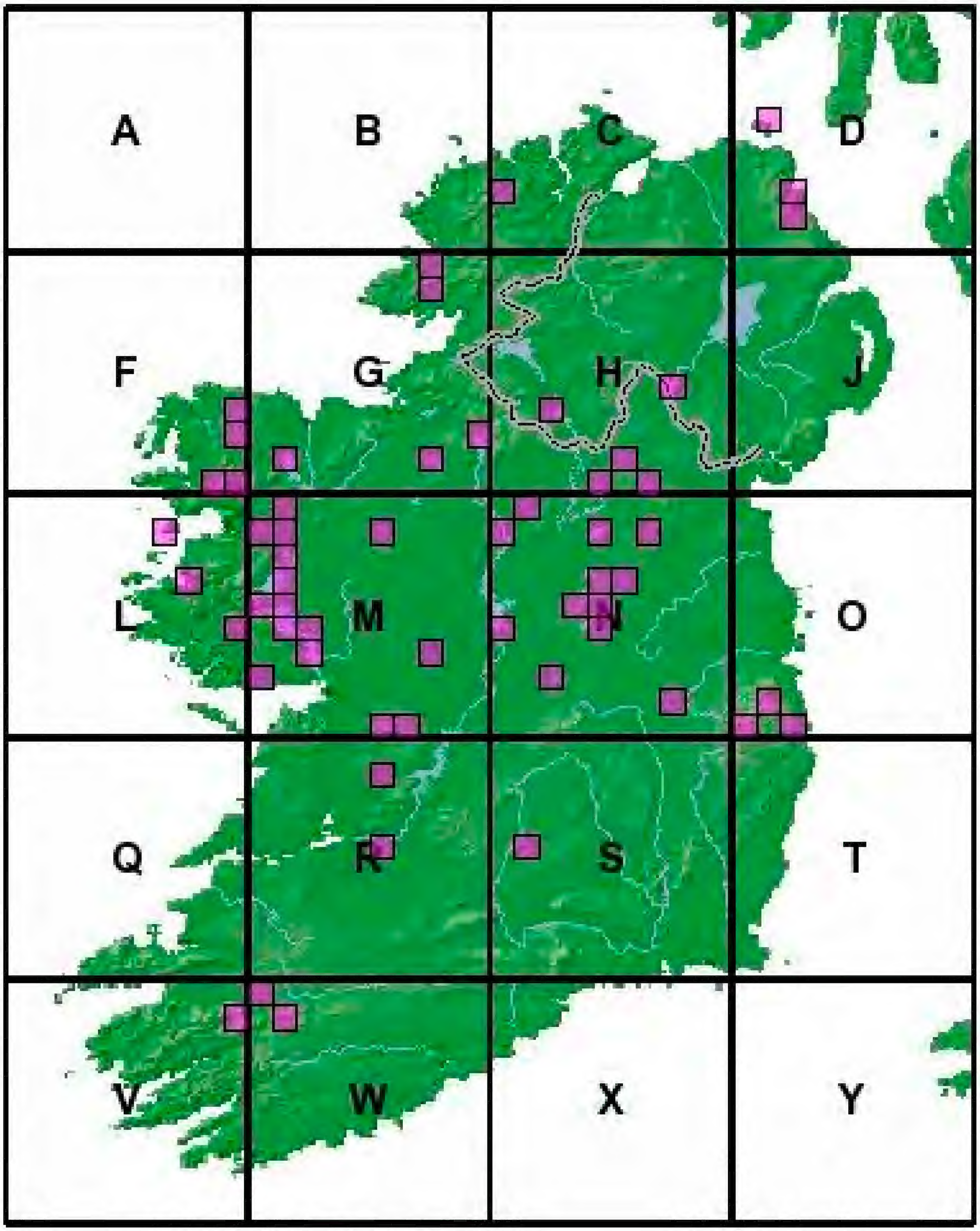

FIGURE 70. The known 10km distribution of *Agrypnia obsoleta* (Hagen, 1864).
Habitat: bog pools/hollows, canals, fens, lakes and ponds both upland and low lying, reservoirs and rivers. **Flight period:** May – October.

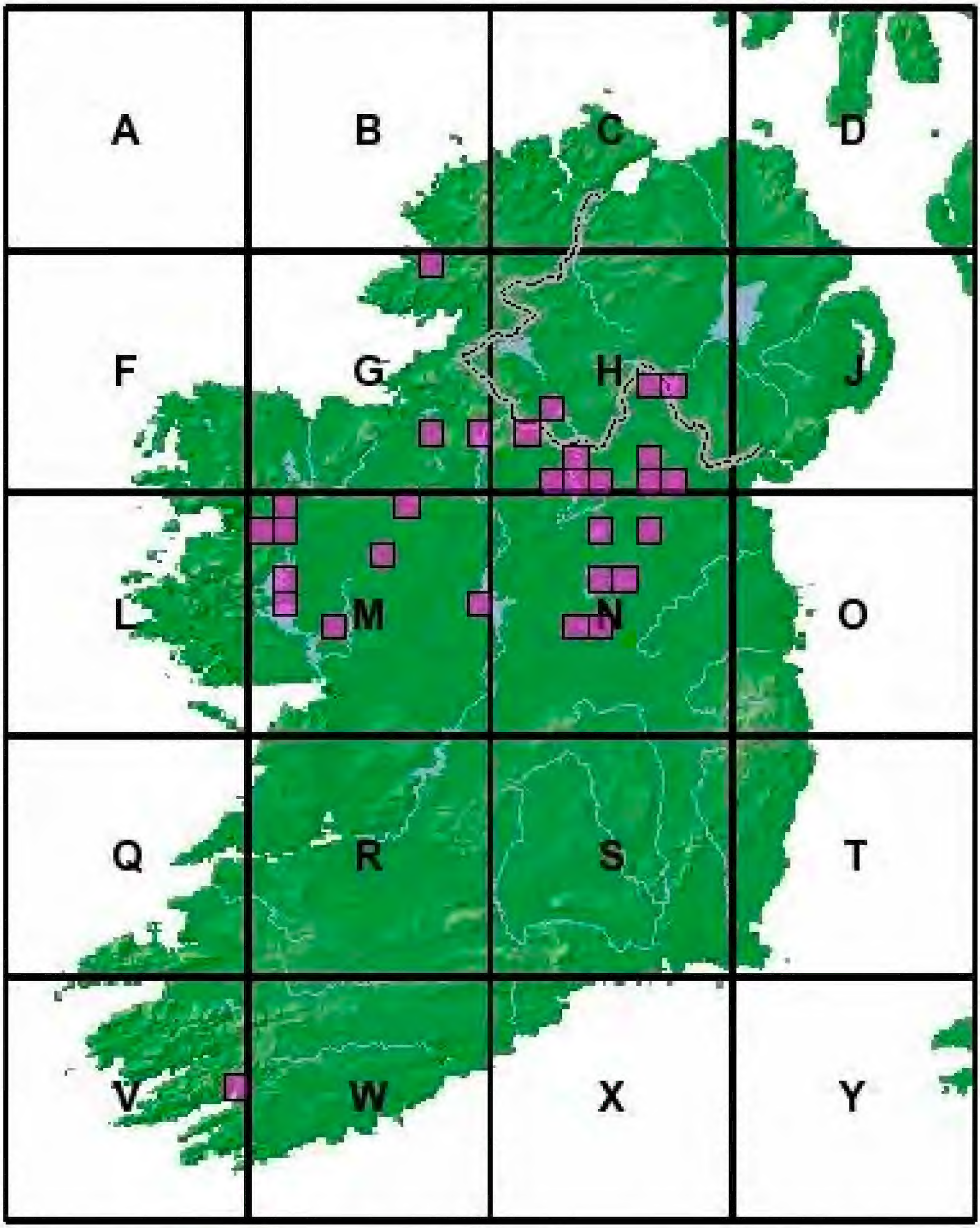

FIGURE 71. The known 10km distribution of *Agrypnia pagetana* Curtis, 1835.
Habitat: lakes and ponds.
Flight period: April – September.

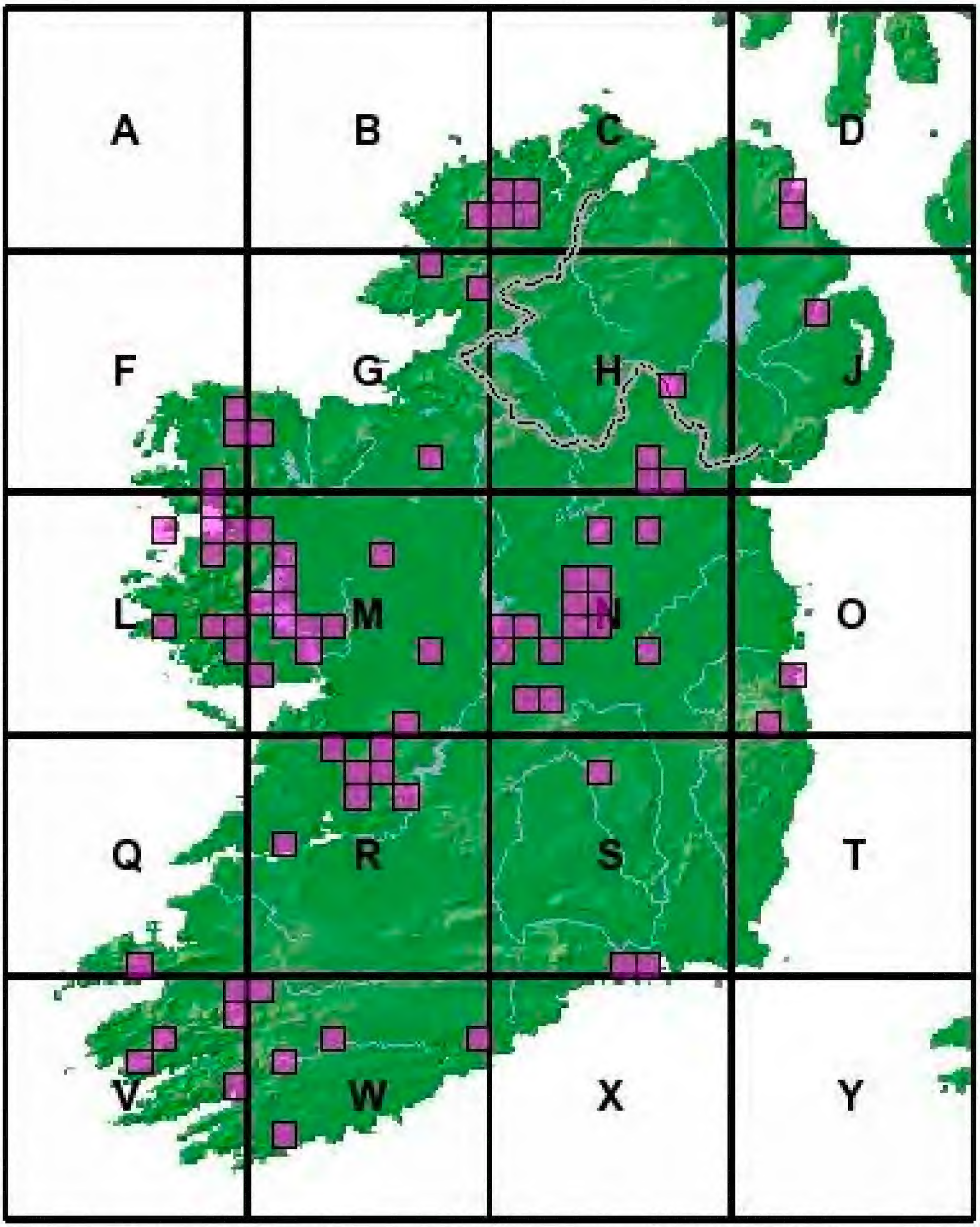

FIGURE 72. The known 10km distribution of *Agrypnia varia* (Fabricius, 1793).
Habitat: bogs, pools, weedy ponds along with the reed beds and sheltered rocky shores of lakes. **Flight period:** May – October.

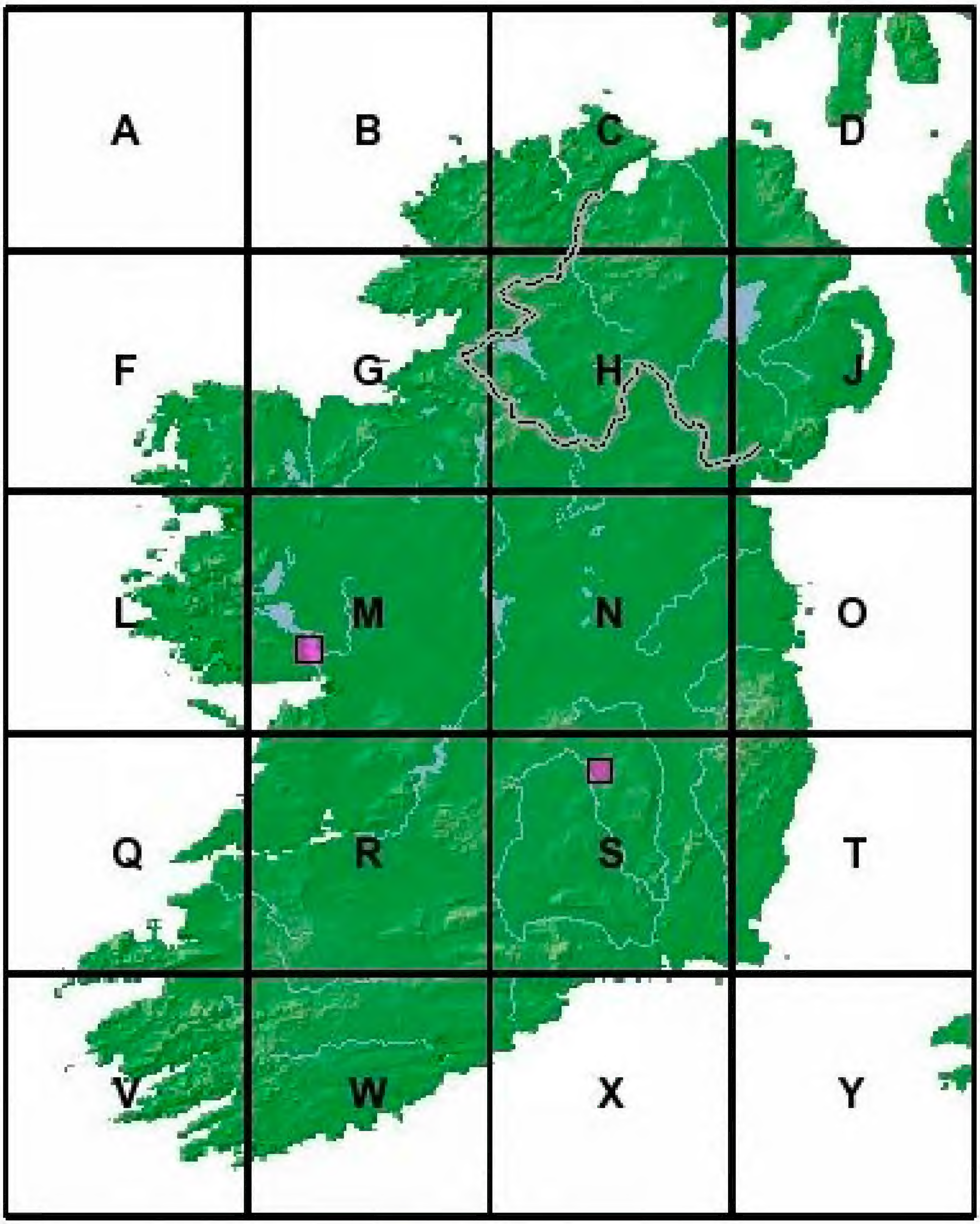

FIGURE 73. The known 10km distribution of *Hagenella clathrata* (Kolenati, 1848). **Habitat:** small bog pools, sometimes only centimetres across between large tussocks of moor grass *Molinia*. **Flight period:** May – June.

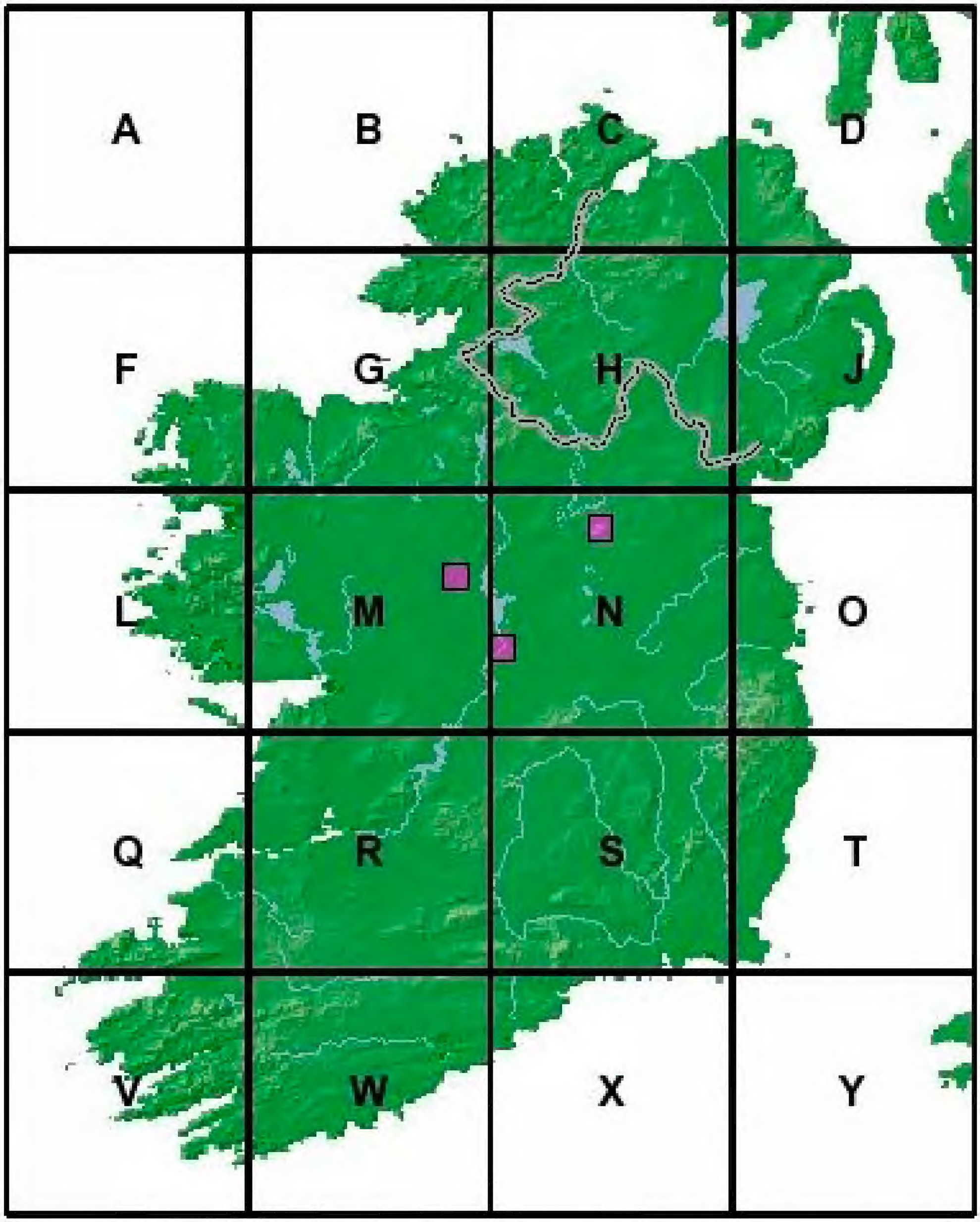

FIGURE 74. The known 10km distribution of *Oligotricha striata* (Linnaeus, 1758).
Habitat: pools and ditches with abundant *Sphagnum* moss.
Flight period: July – August.

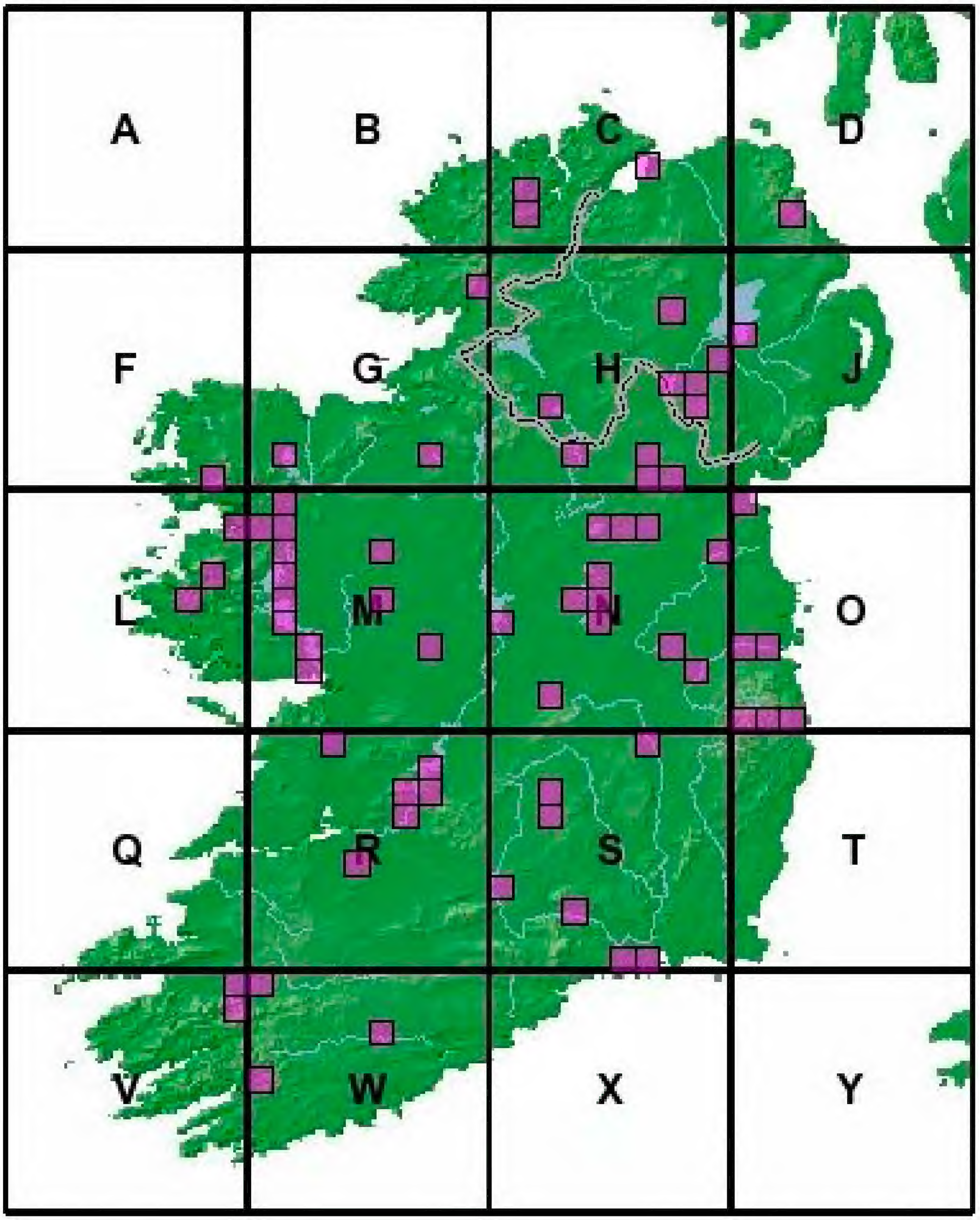

FIGURE 75. The known 10km distribution of *Phryganea bipunctata* Retzius, 1783.
Habitat: canals, ponds, lakes, reservoirs and rivers.
Flight period: May – September.

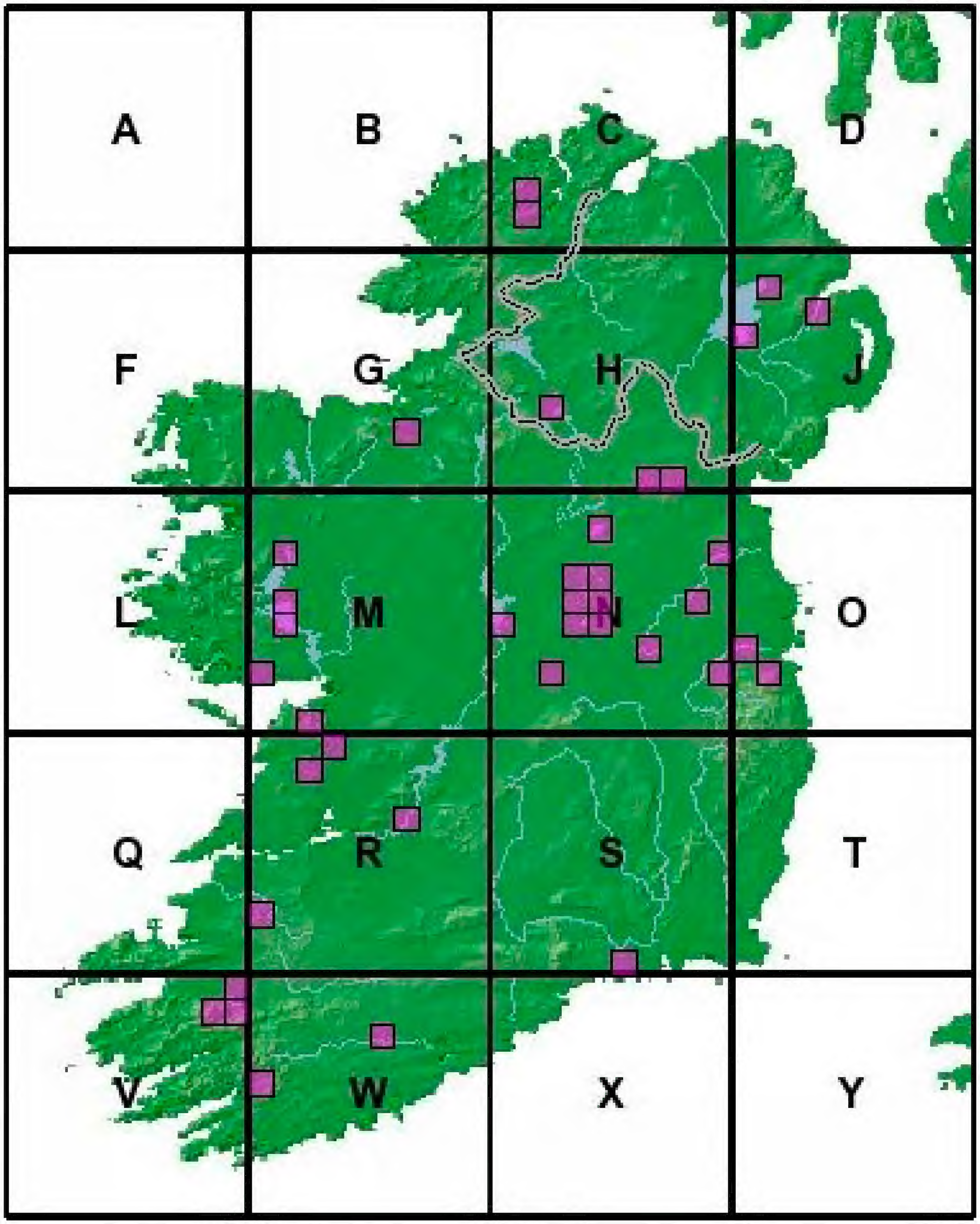

FIGURE 76. The known 10km distribution of *Phryganea grandis* Linnaeus, 1758.
Habitat: ponds, canals, lakes and rivers.
Flight period: May – September.

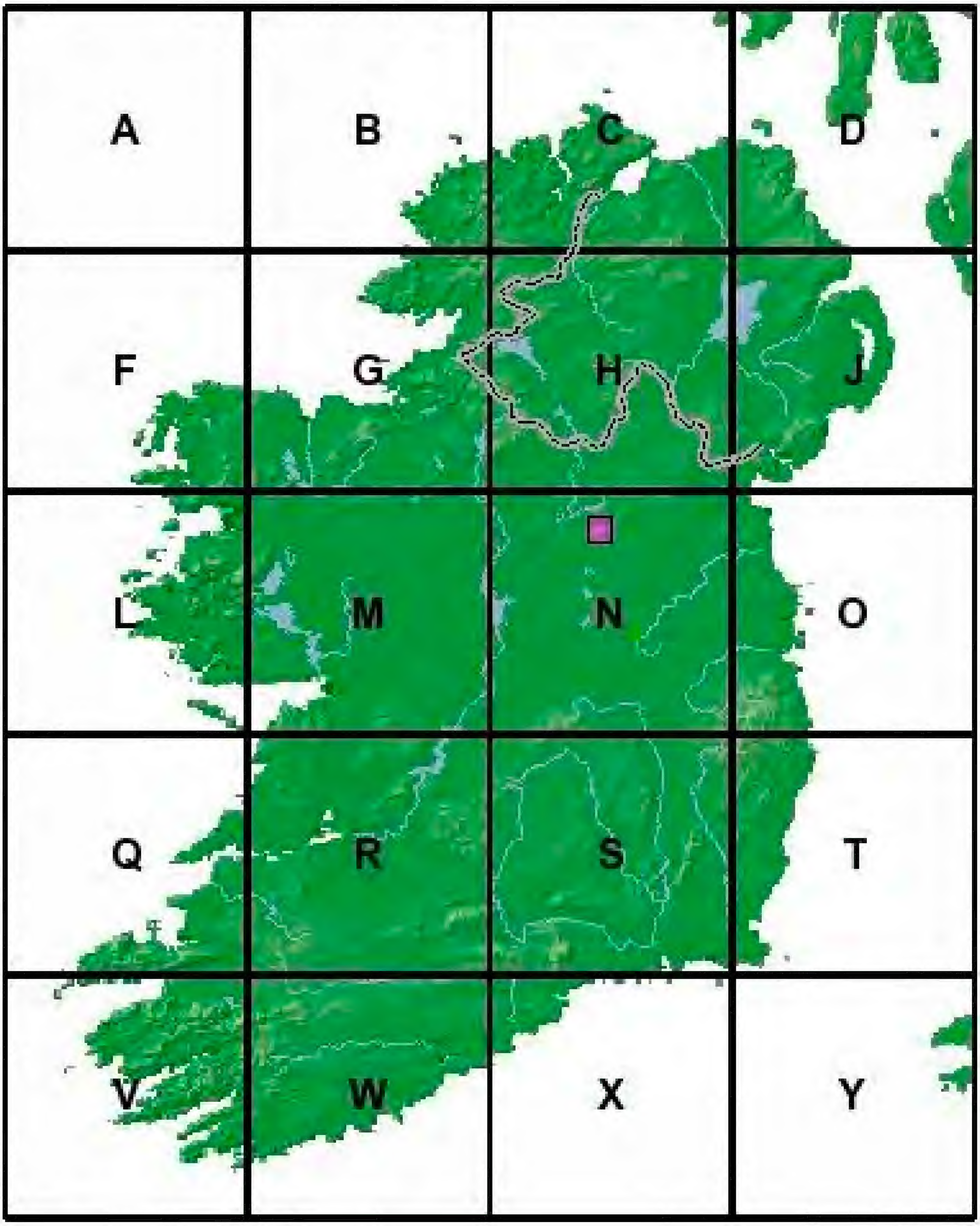

FIGURE 77. The known 10km distribution of *Trichostegia minor* (Curtis, 1834).
Habitat: ditches/pools that dry up in the summer and also choke with the rotting leaves of trees/reeds. **Flight period:** July (Britain: April – August (September) (Wallace, pers. comm.)).

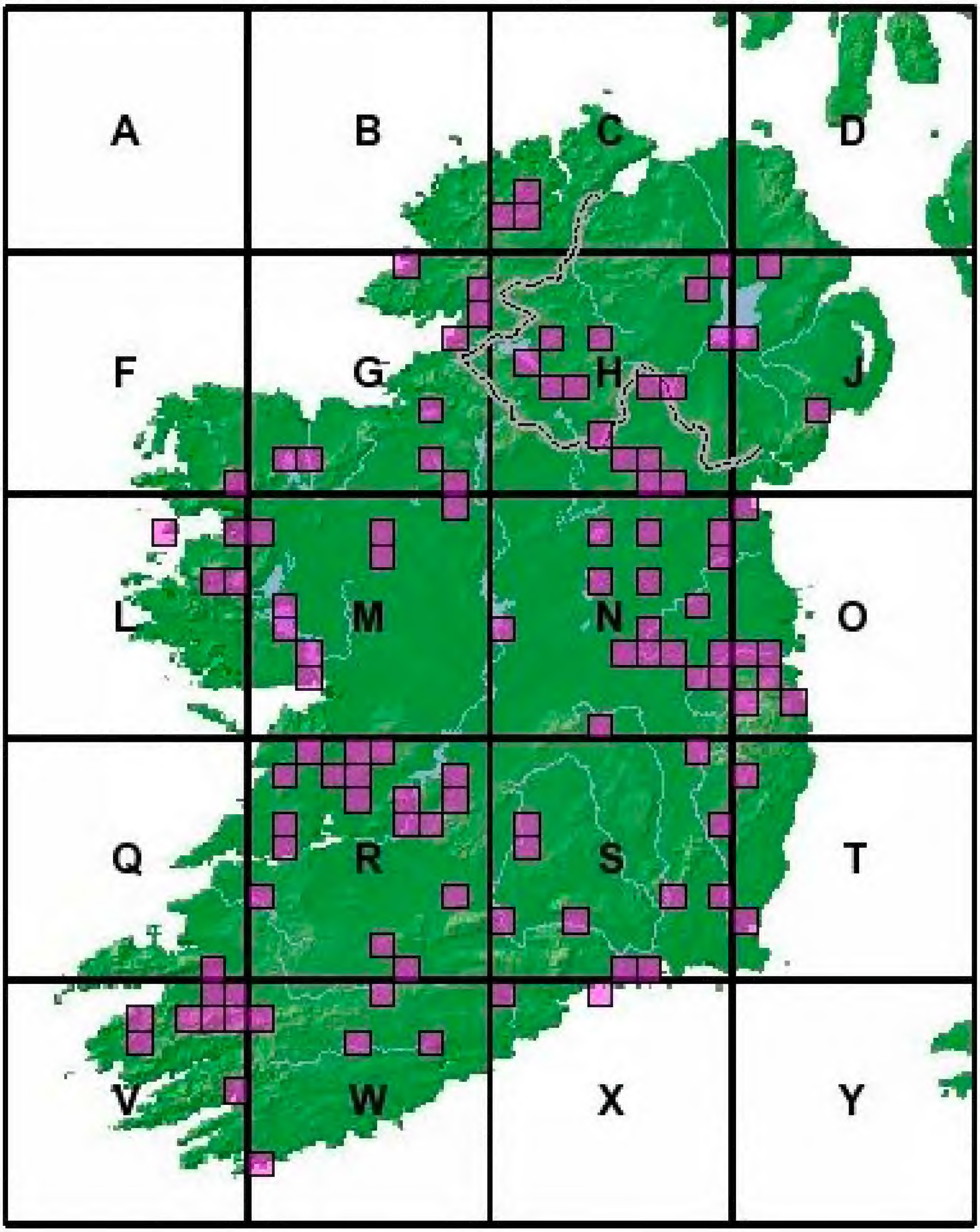

FIGURE 78. The known 10km distribution of *Goera pilosa* (Fabricius, 1775).
Habitat: stony substrata in rivers, streams and on lake shores.
Flight period: May – September.

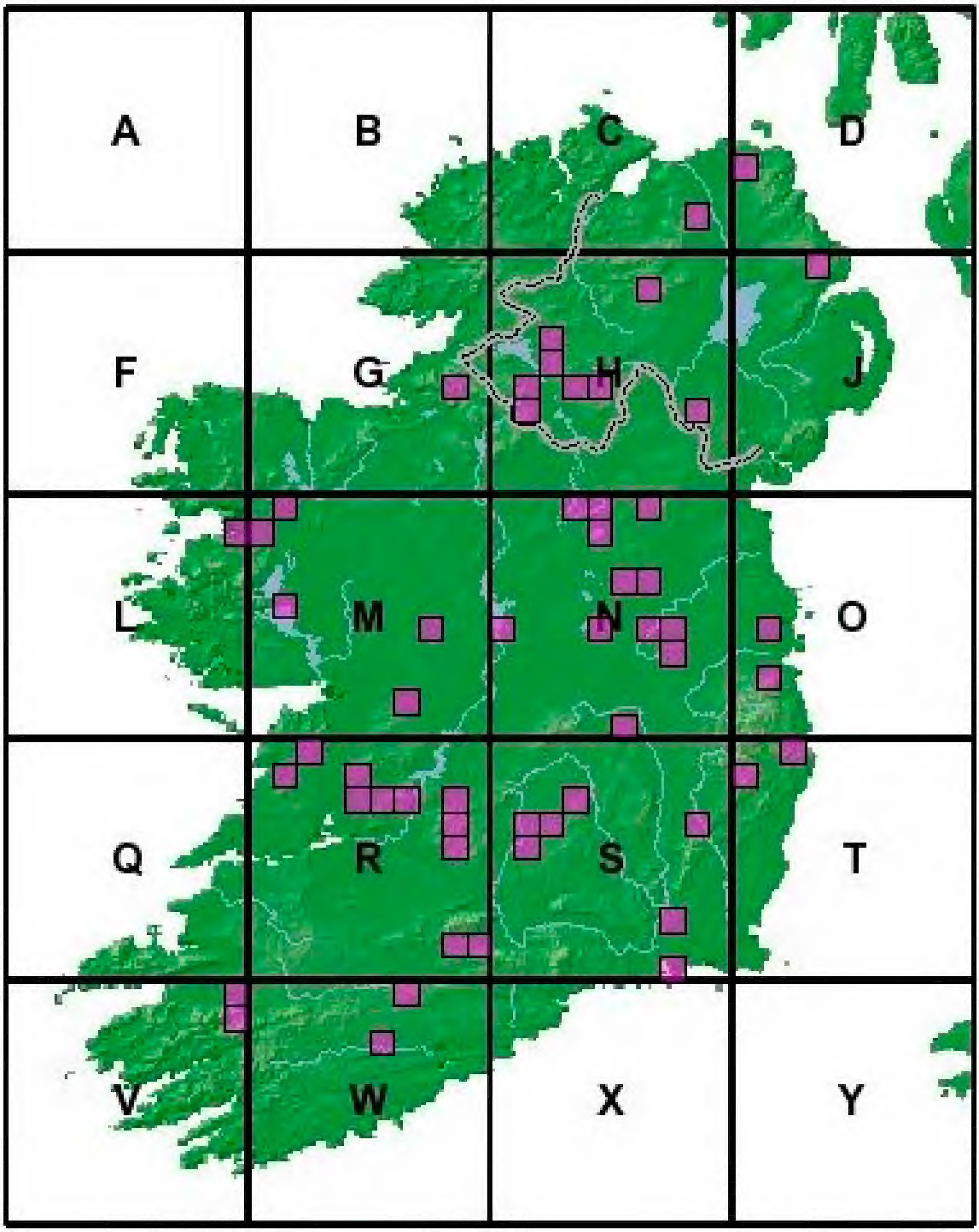

FIGURE 79. The known 10km distribution of *Silo nigricornis* (Pictet, 1834).
Habitat: rivers and streams.
Flight period: May – September.

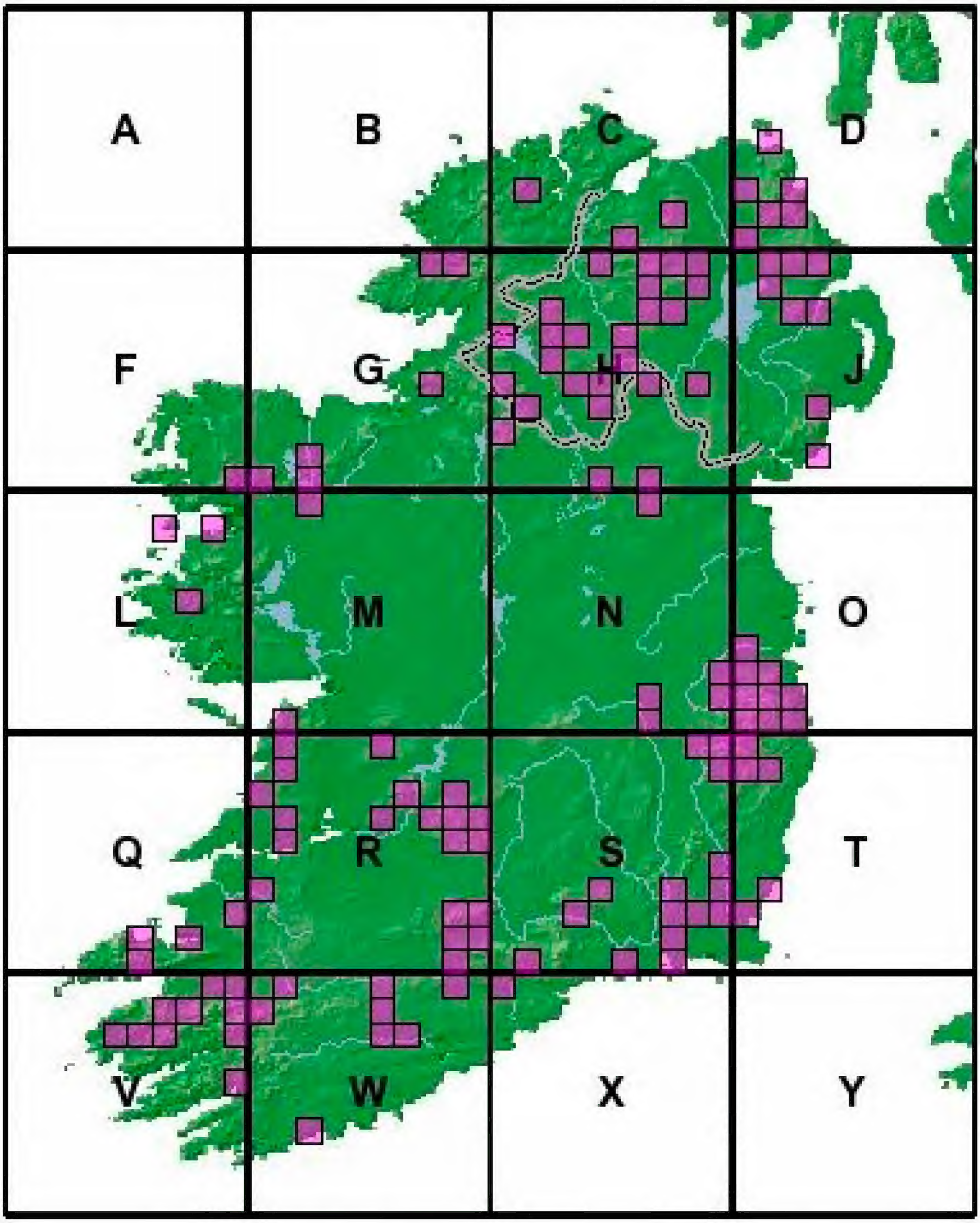

FIGURE 80. The known 10km distribution of *Silo pallipes* (Fabricius, 1781).
Habitat: rivers and streams.
Flight period: May – September.

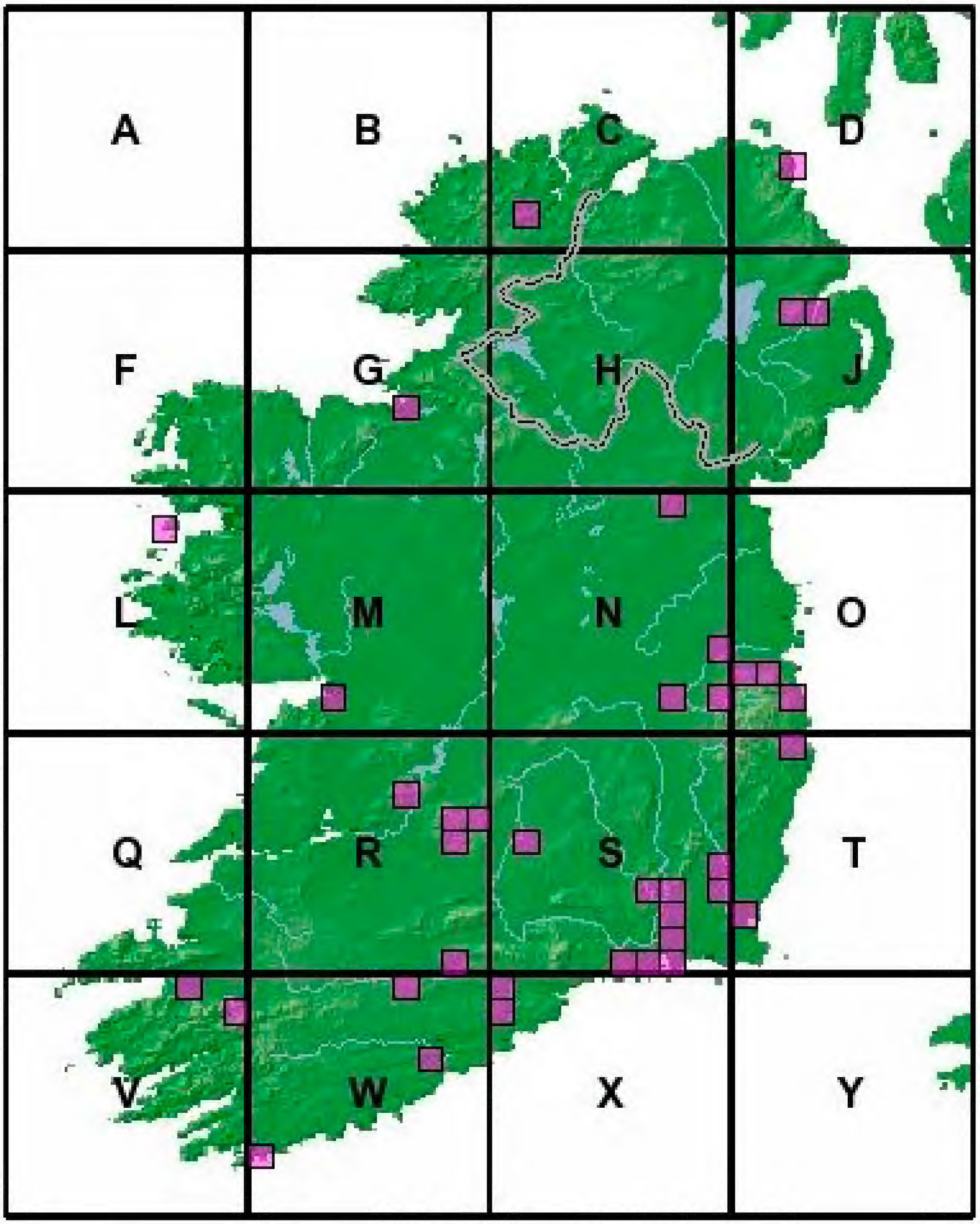

FIGURE 81. The known 10km distribution of *Crunoecia irrorata* (Curtis, 1834).
Habitat: permanent trickles and seepages, tufa springs and streams.
Flight period: May – October.

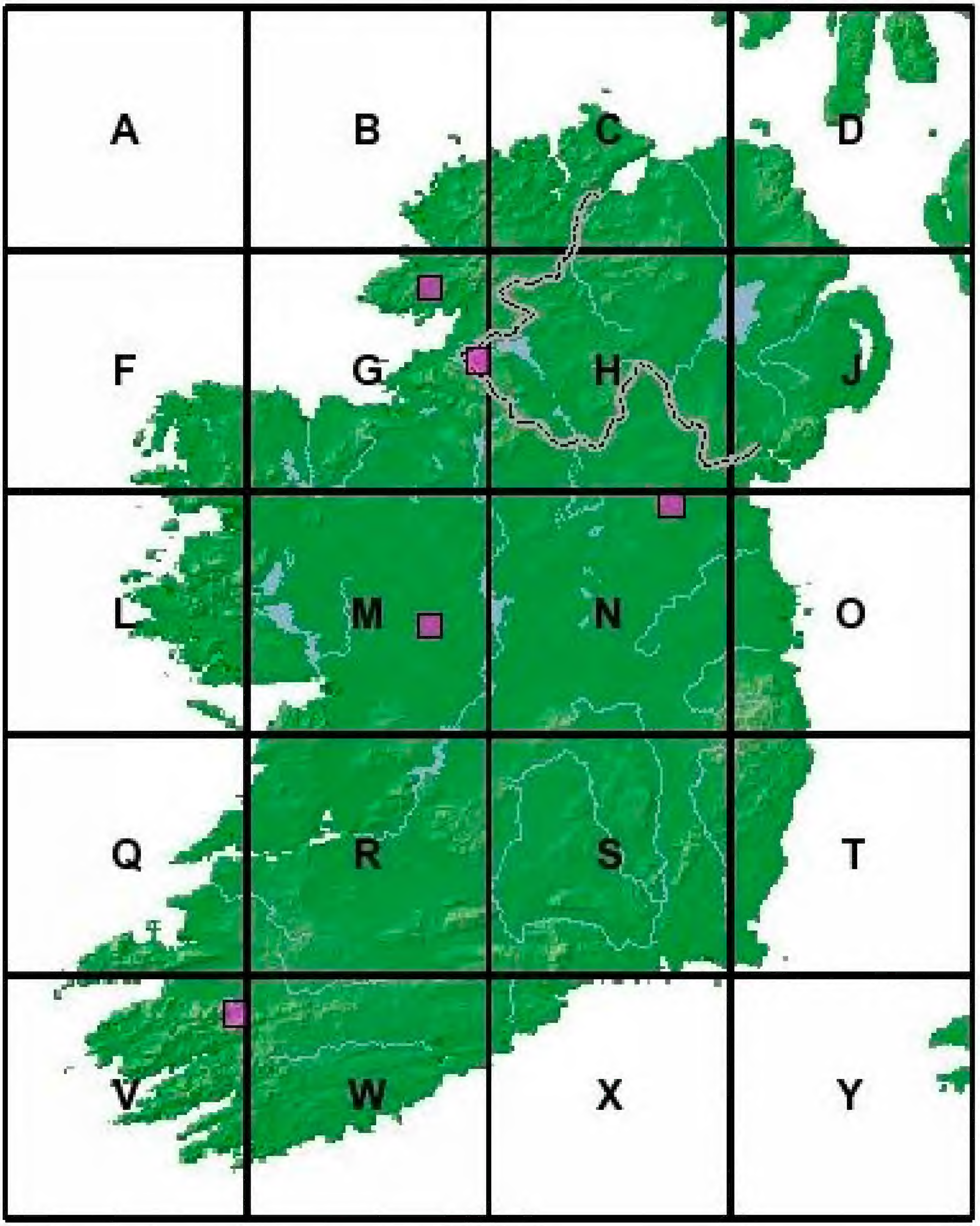

FIGURE 82. The known 10km distribution of *Lepidostoma basale* (Kolenati, 1848).
Habitat: rivers and large streams.
Flight period: May – June.

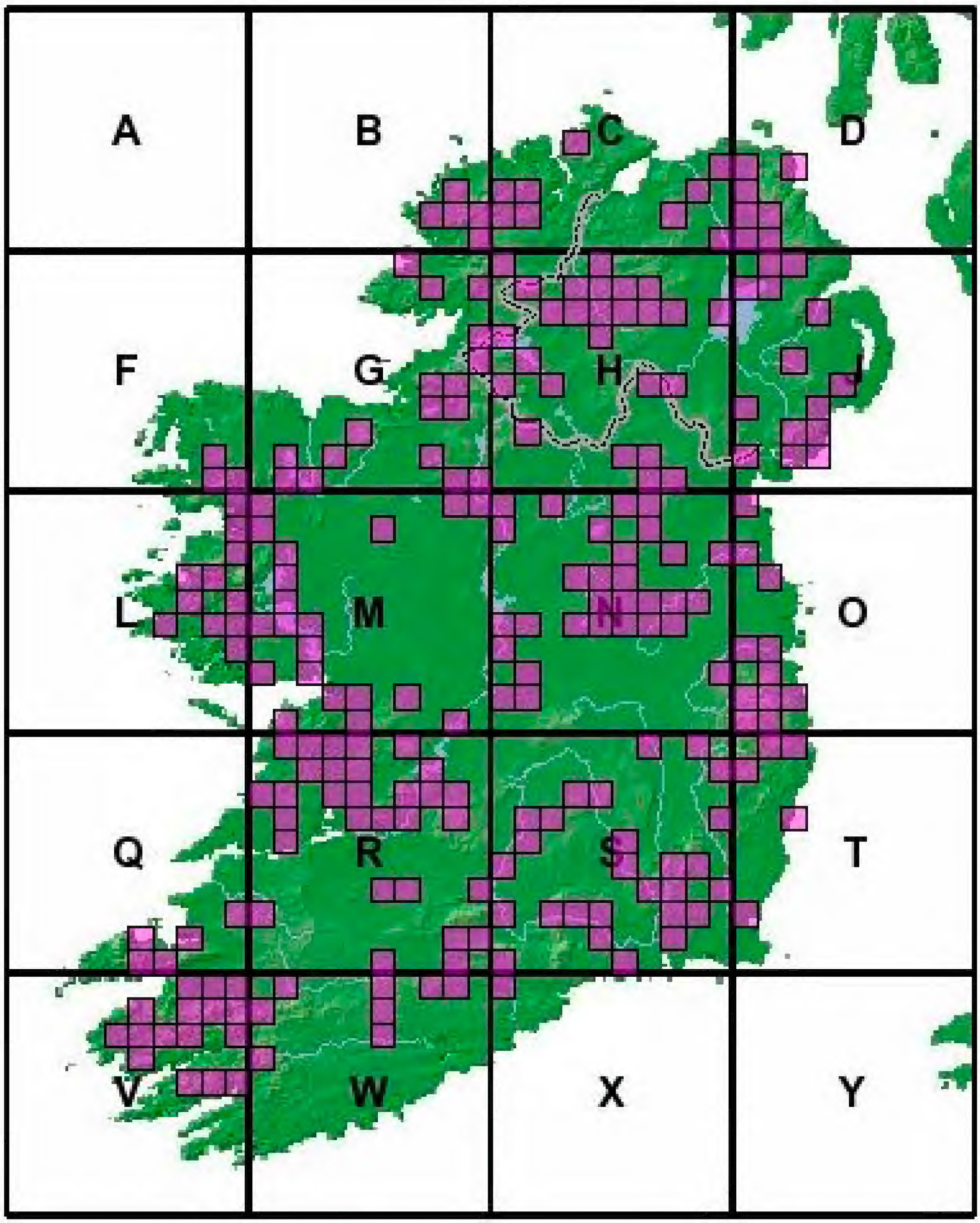

FIGURE 83. The known 10km distribution of *Lepidostoma hirtum* (Fabricius, 1775).
Habitat: large streams, rivers and lakes.
Flight period: May – October.

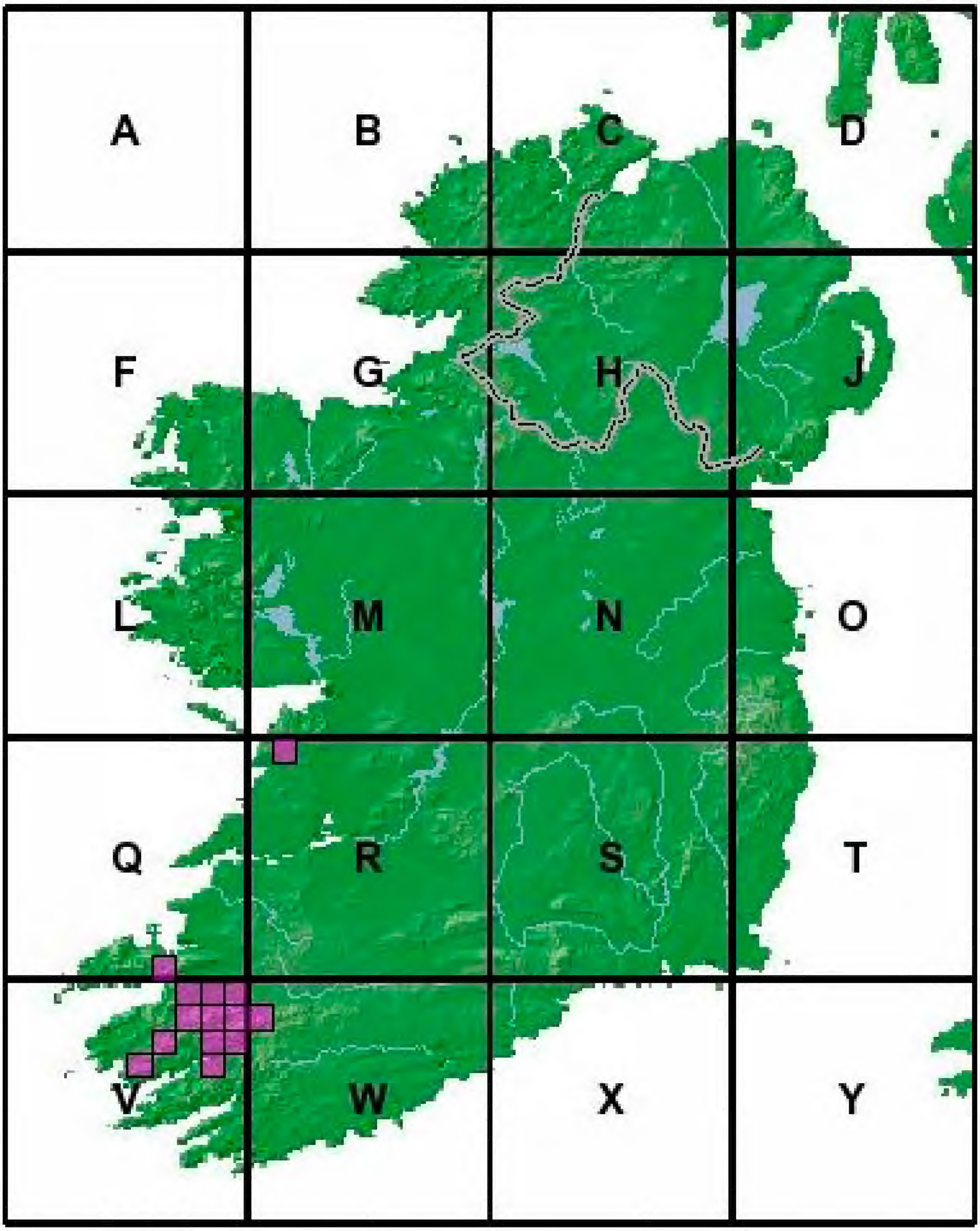

FIGURE 84. The known 10km distribution of *Apatania auricula* (Forsslund, 1930).
Habitat: lake shores with stony substrata.
Flight period: January – May, July – November.

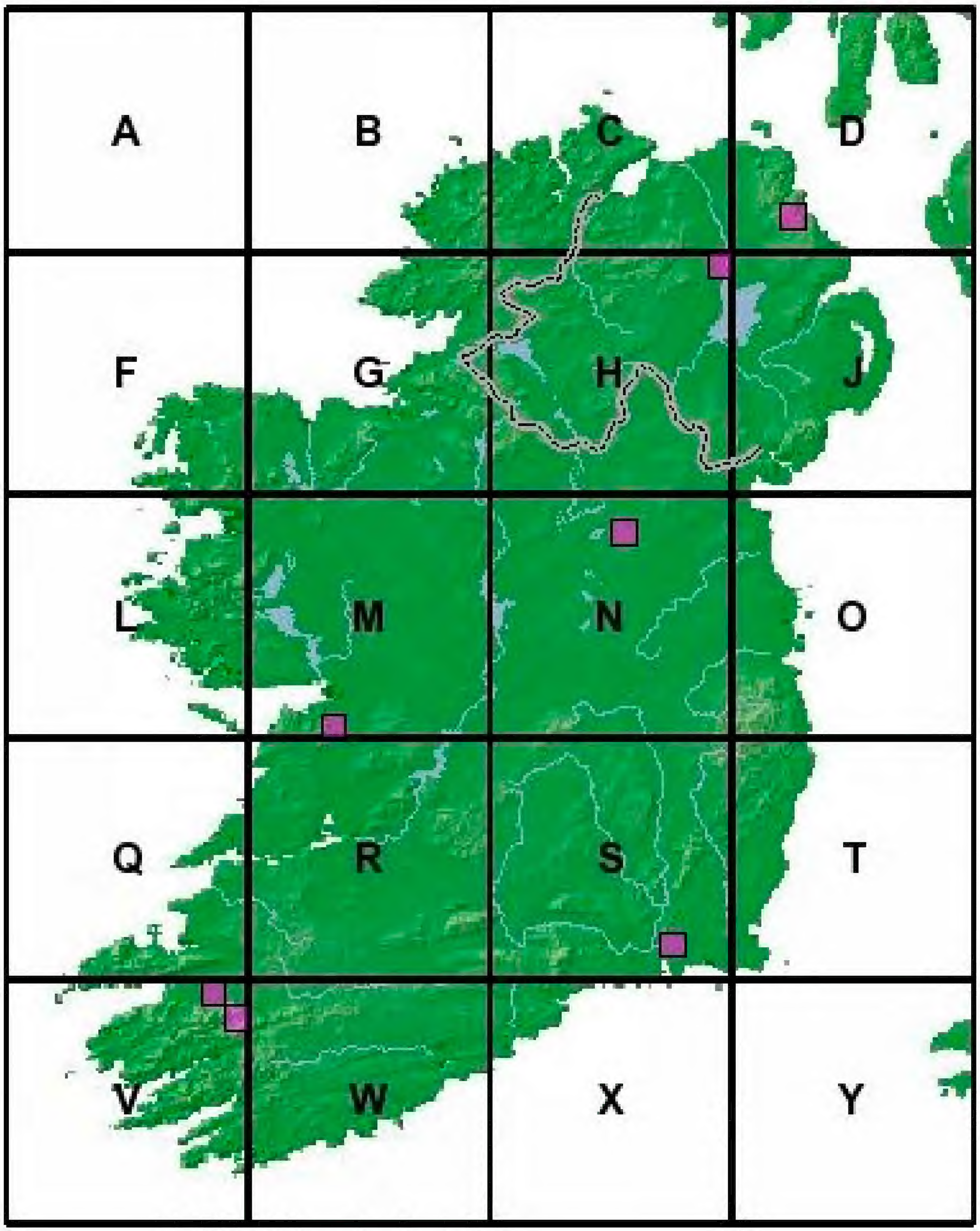

FIGURE 85. The known 10km distribution of *Apatania muliebris* McLachlan, 1866. **Habitat:** spring-fed streams with a stony substratum, also trickles and ditches fed by ground water. **Flight period:** April – June, (September).

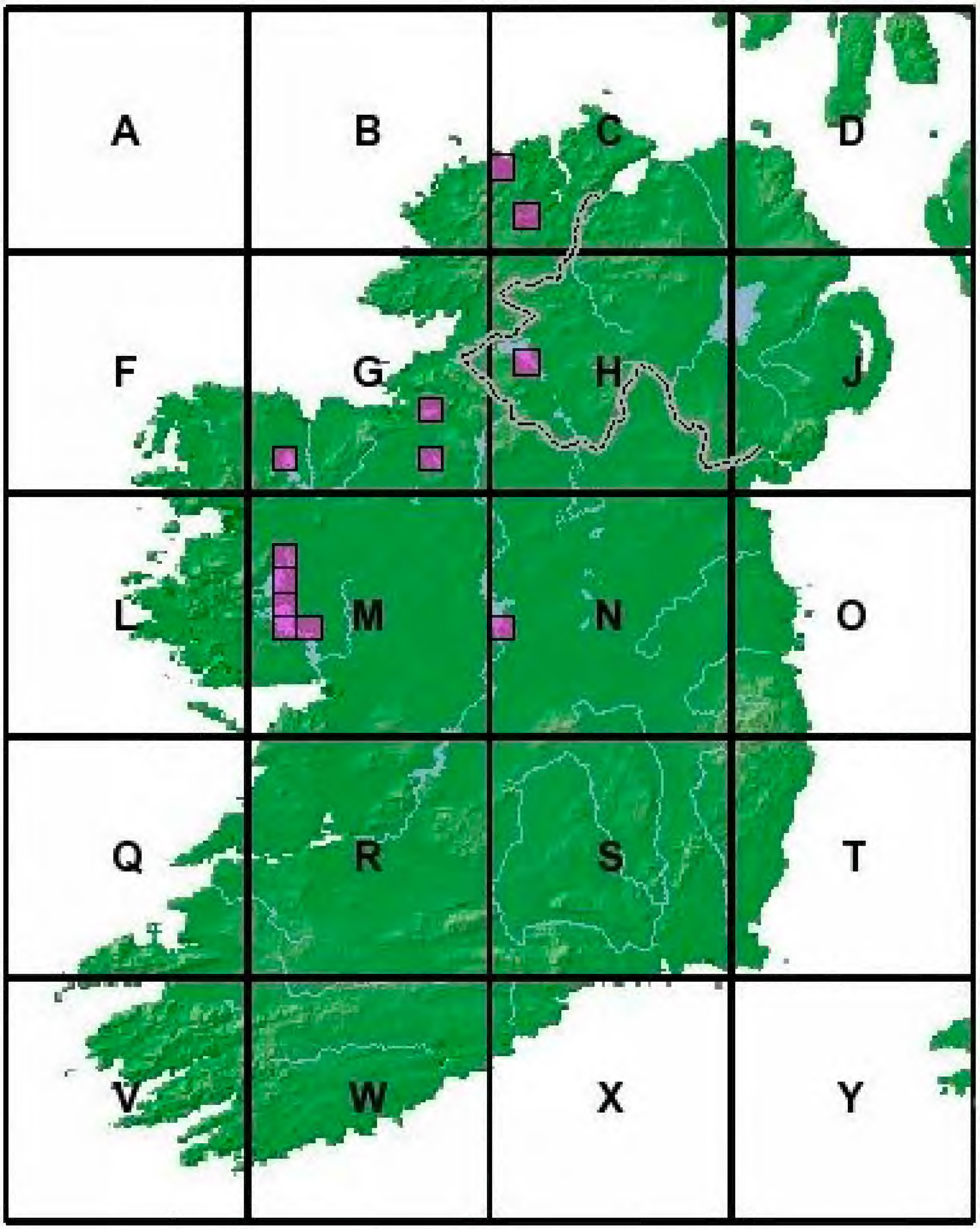

FIGURE 86. The known 10km distribution of *Apatania wallengreni* McLachlan, 1871.
Habitat: stony shores in mainly large lakes, both calcareous and acidic.
Flight period: April – June.

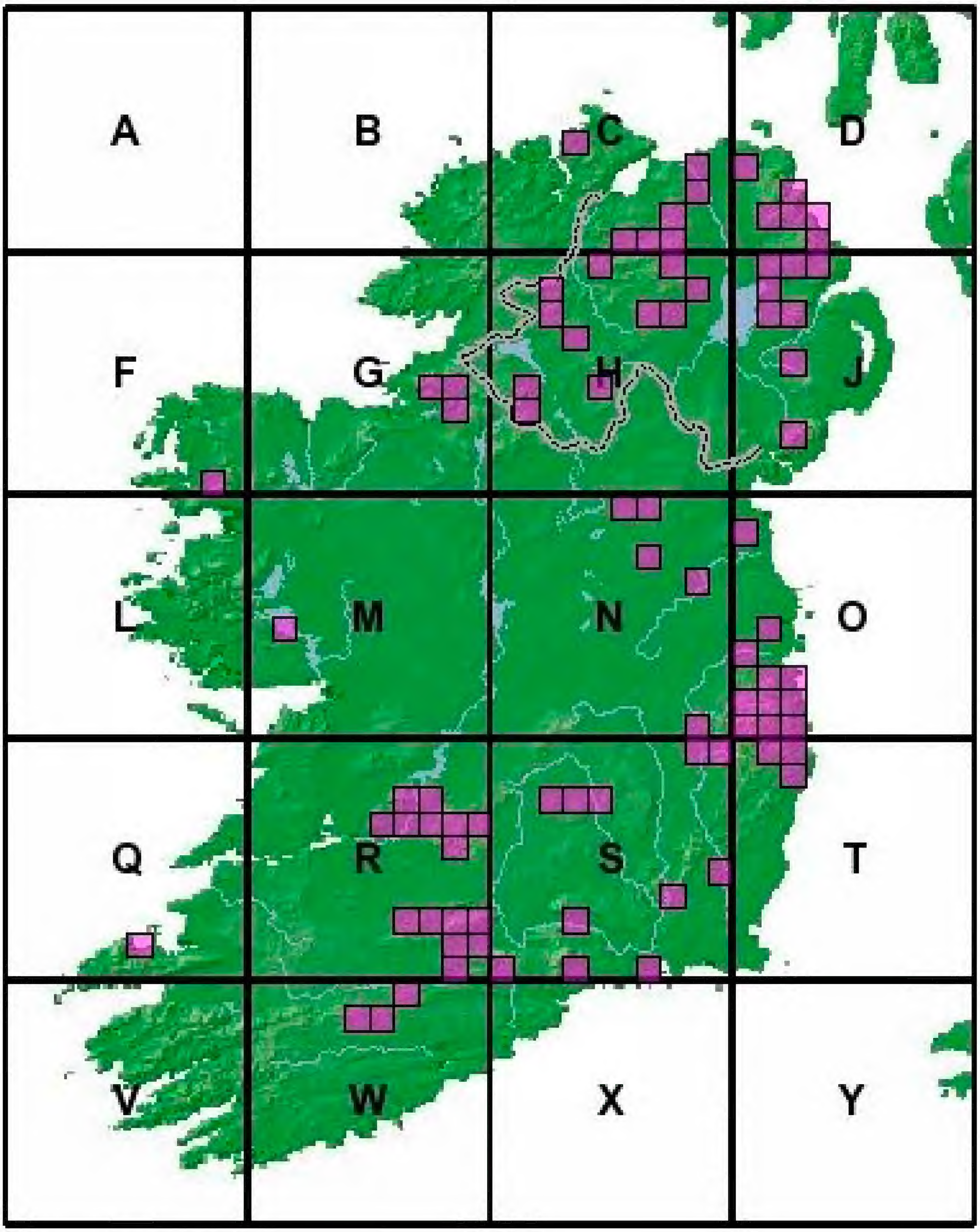

FIGURE 87. The known 10km distribution of *Drusus annulatus* (Stephens, 1837).
Habitat: stony rivers and streams.
Flight period: May – October.

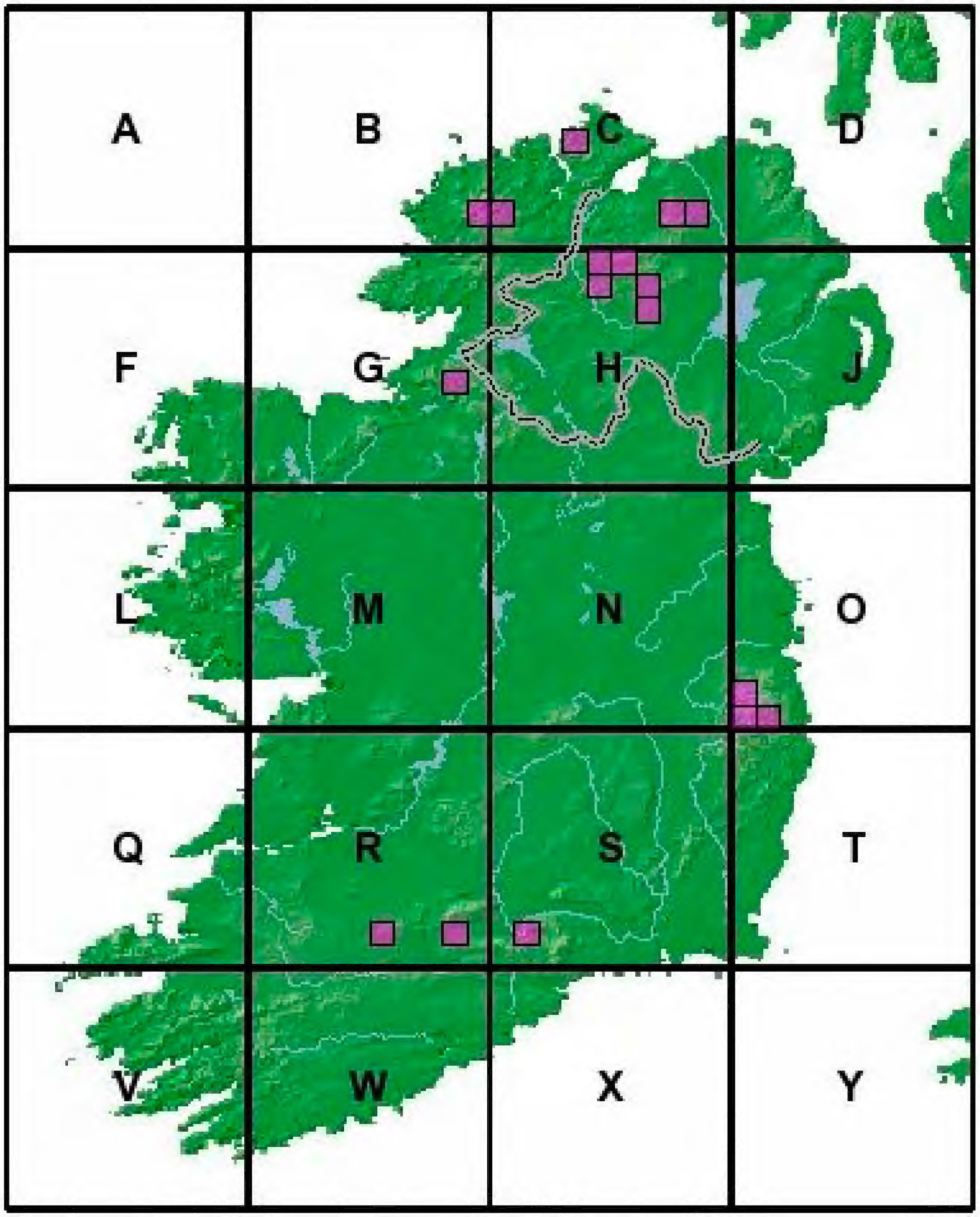

FIGURE 88. The known 10km distribution of *Ecclisopteryx dalecarlica* Kolenati, 1848.
Habitat: stony rivers and streams.
Flight period: May – June.

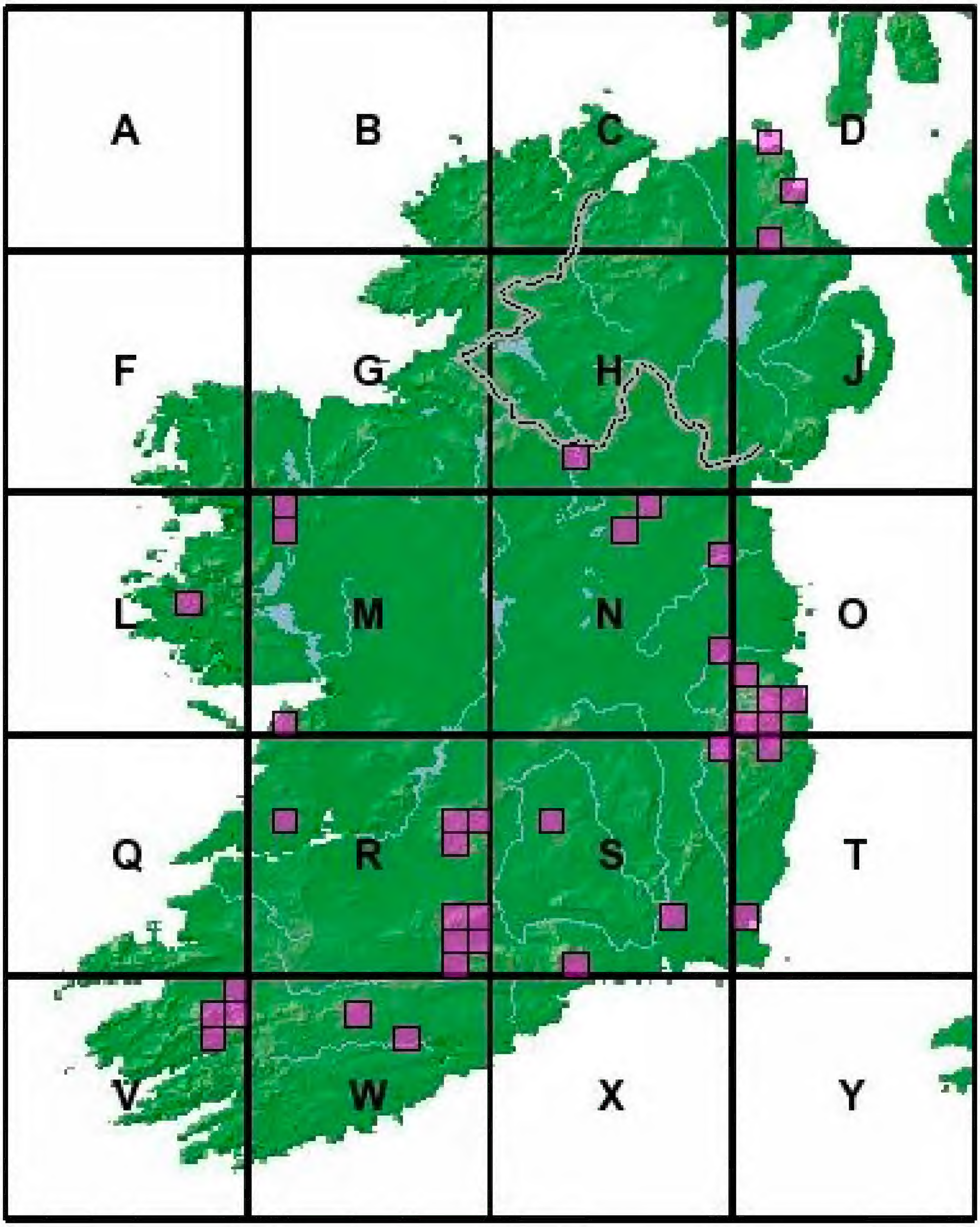

FIGURE 89. The known 10km distribution of *Chaetopteryx villosa* (Fabricius, 1798).
Habitat: rivers, streams and upland oligotrophic lakes.
Flight period: September – December.

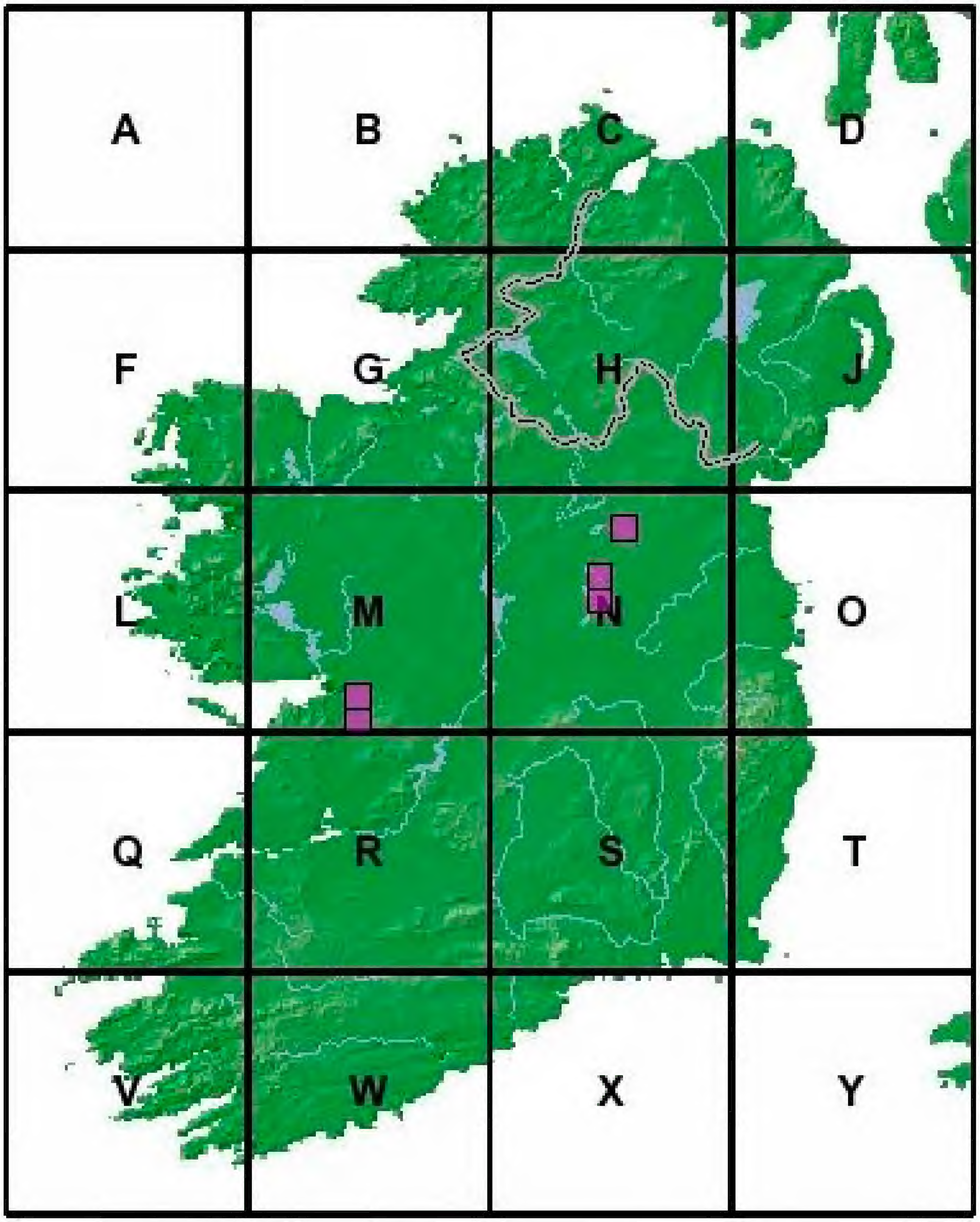

FIGURE 90. The known 10km distribution of *Anabolia brevipennis* (Curtis, 1834).
Habitat: pools with dead leaves in alder marshes, bogs and woods, and also turloughs.
Flight period: August (Britain: June – September (Wallace, pers. comm.)).

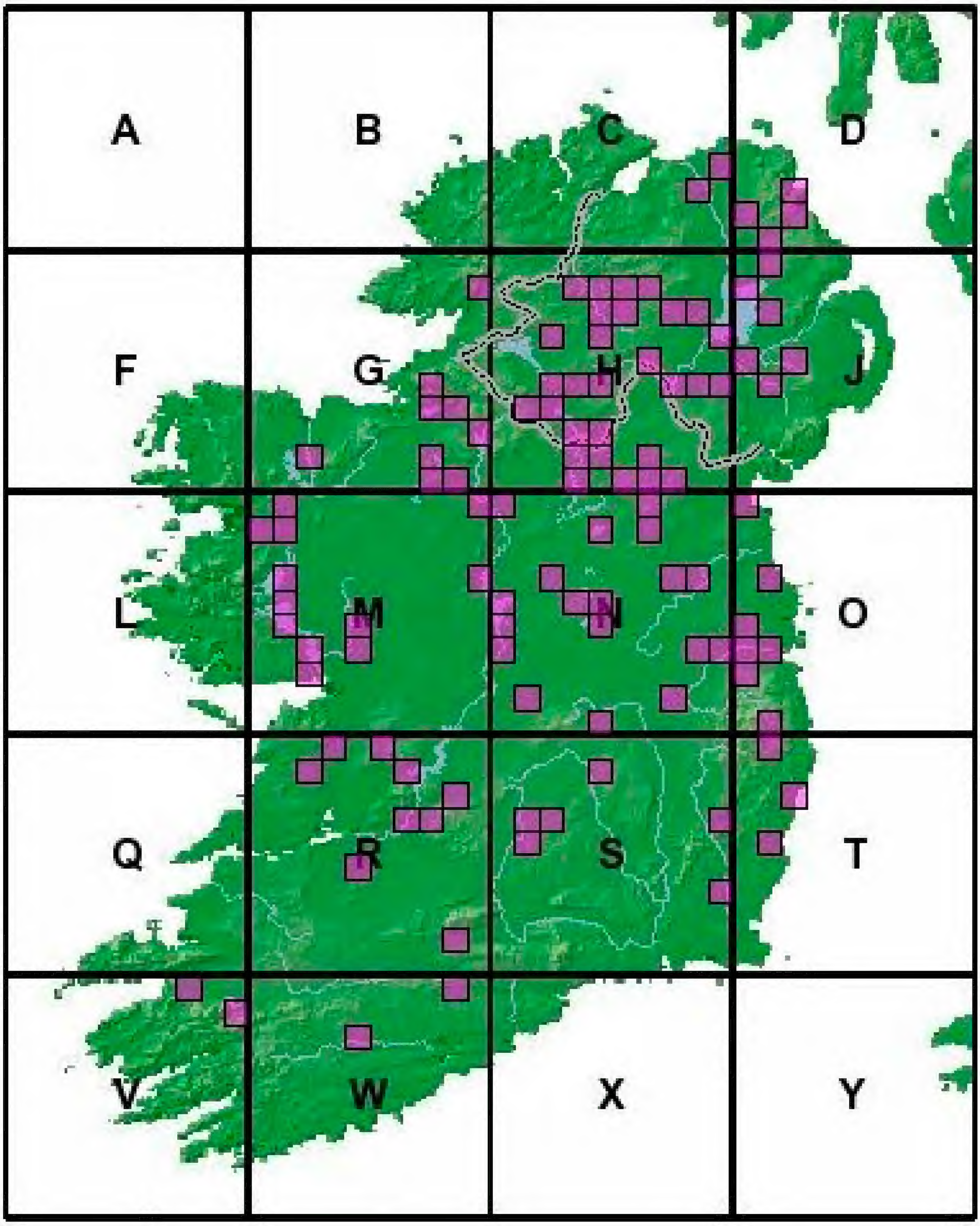

FIGURE 91. The known 10km distribution of *Anabolia nervosa* (Curtis, 1834).
Habitat: canals, large ponds, reservoirs, rivers and lakes.
Flight period: (May, July), September – October, (December).

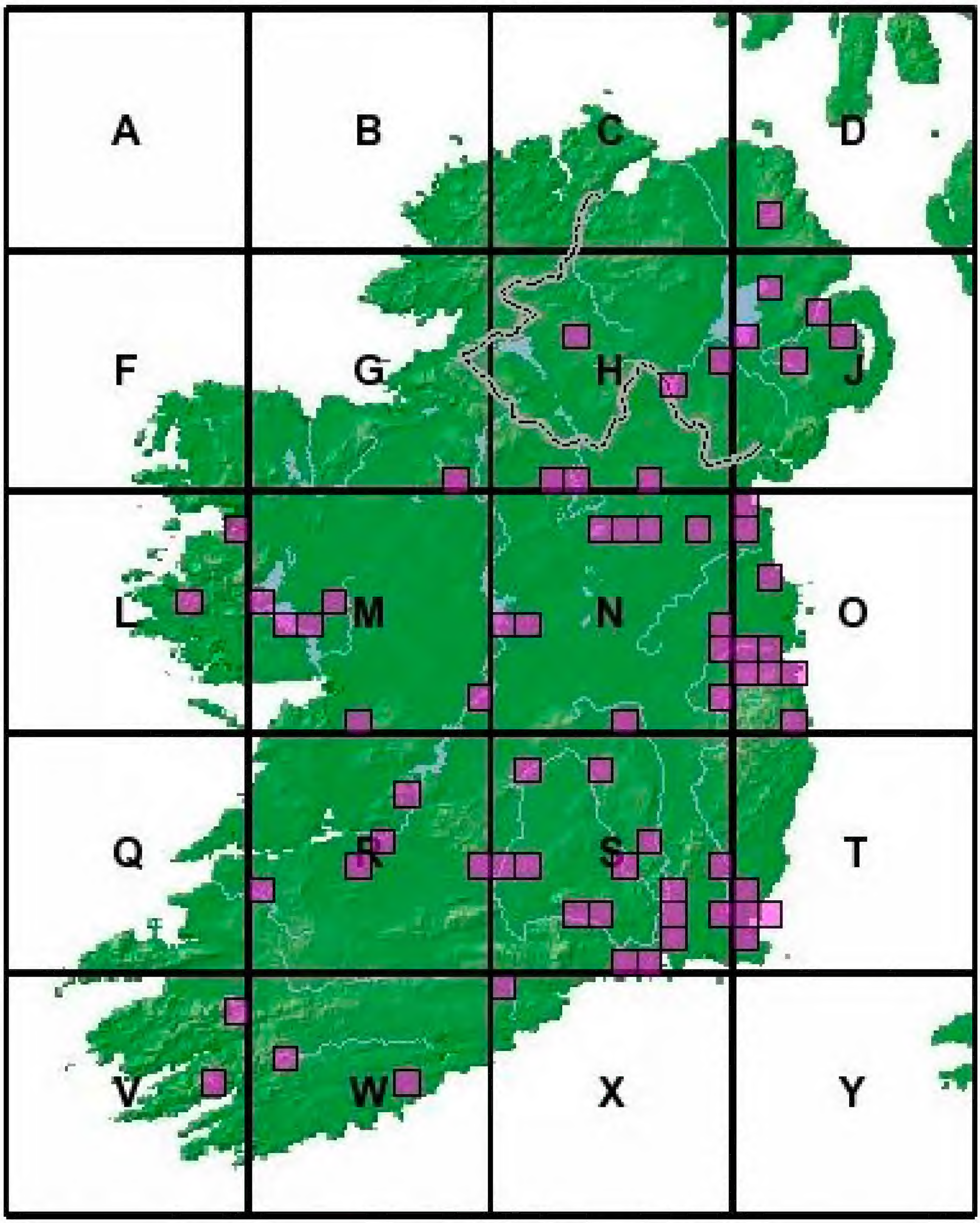

FIGURE 92. The known 10km distribution of *Glyphotaelius pellucidus* (Retzius, 1783).
Habitat: ditches, lakes, marshes, ponds, rivers and streams where deciduous leaves accumulate.
Flight period: May – October.

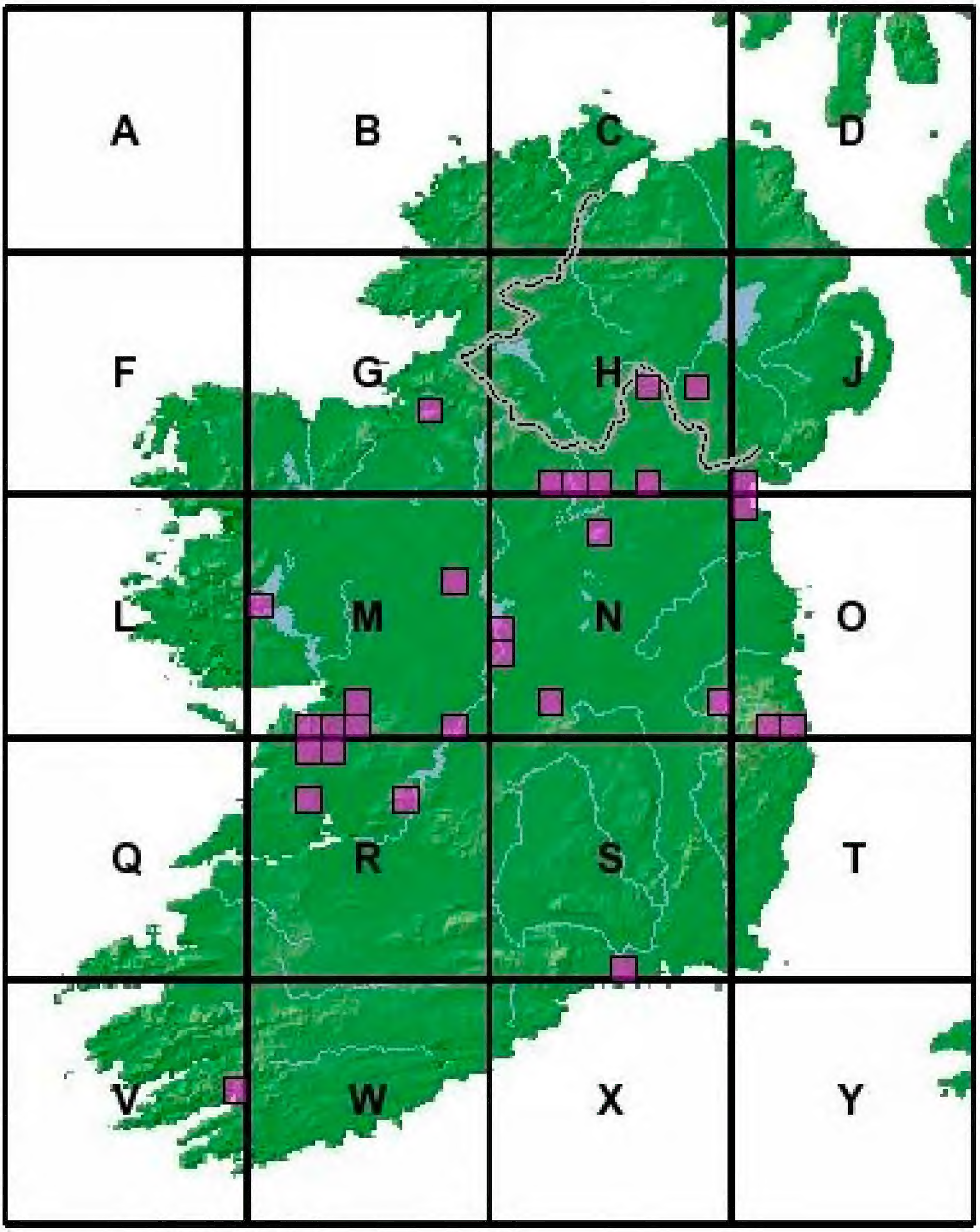

FIGURE 93. The known 10km distribution of *Grammotaulius nigropunctatus* (Retzius, 1783).
Habitat: ditches, muddy and weedy streams, pools, lake margins and turloughs.
Flight period: May – October.

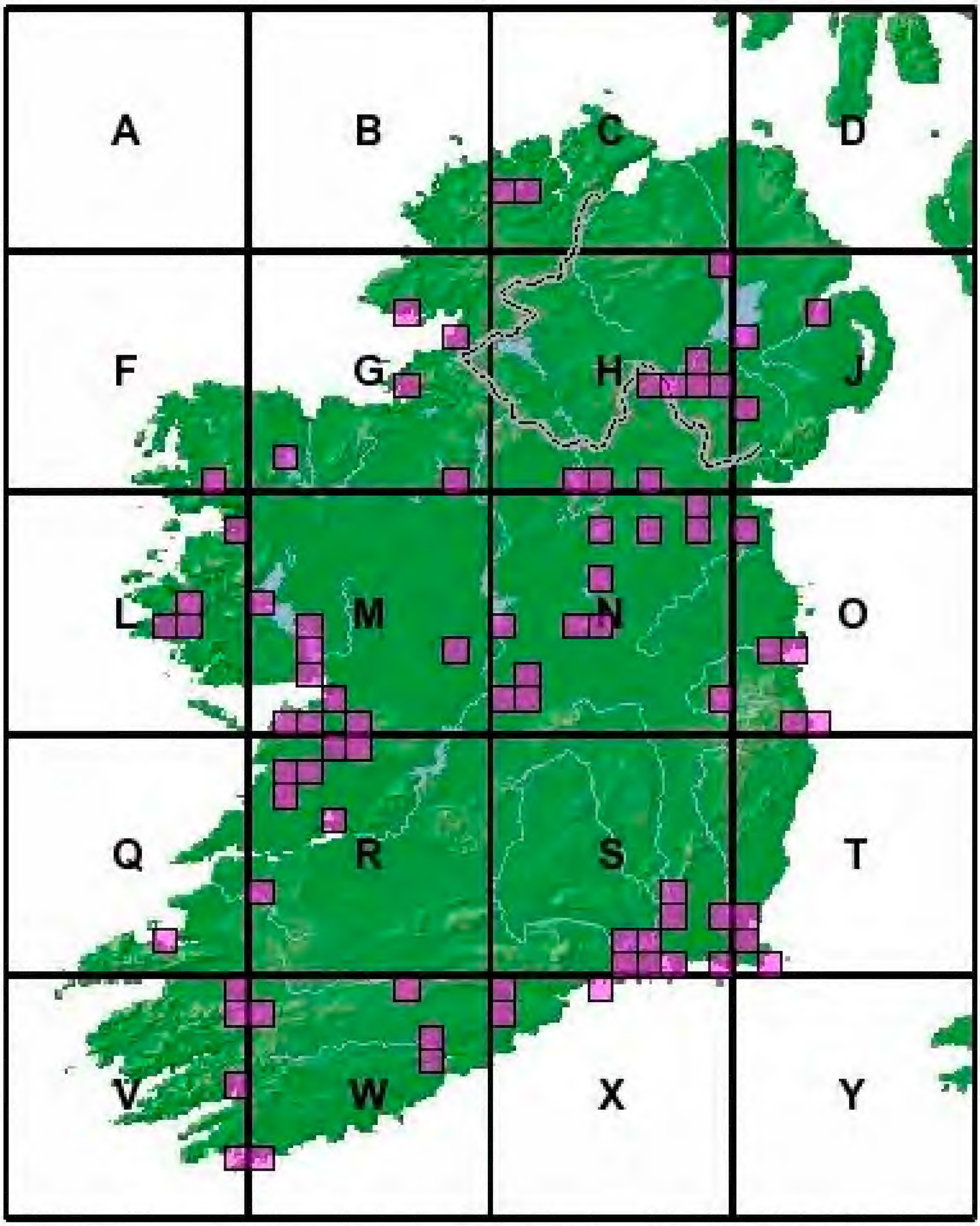

FIGURE 94. The known 10km distribution of *Limnephilus affinis* Curtis, 1834.
Habitat: ditches, lakes, ponds and also pools in salt marshes.
Flight period: April – October.

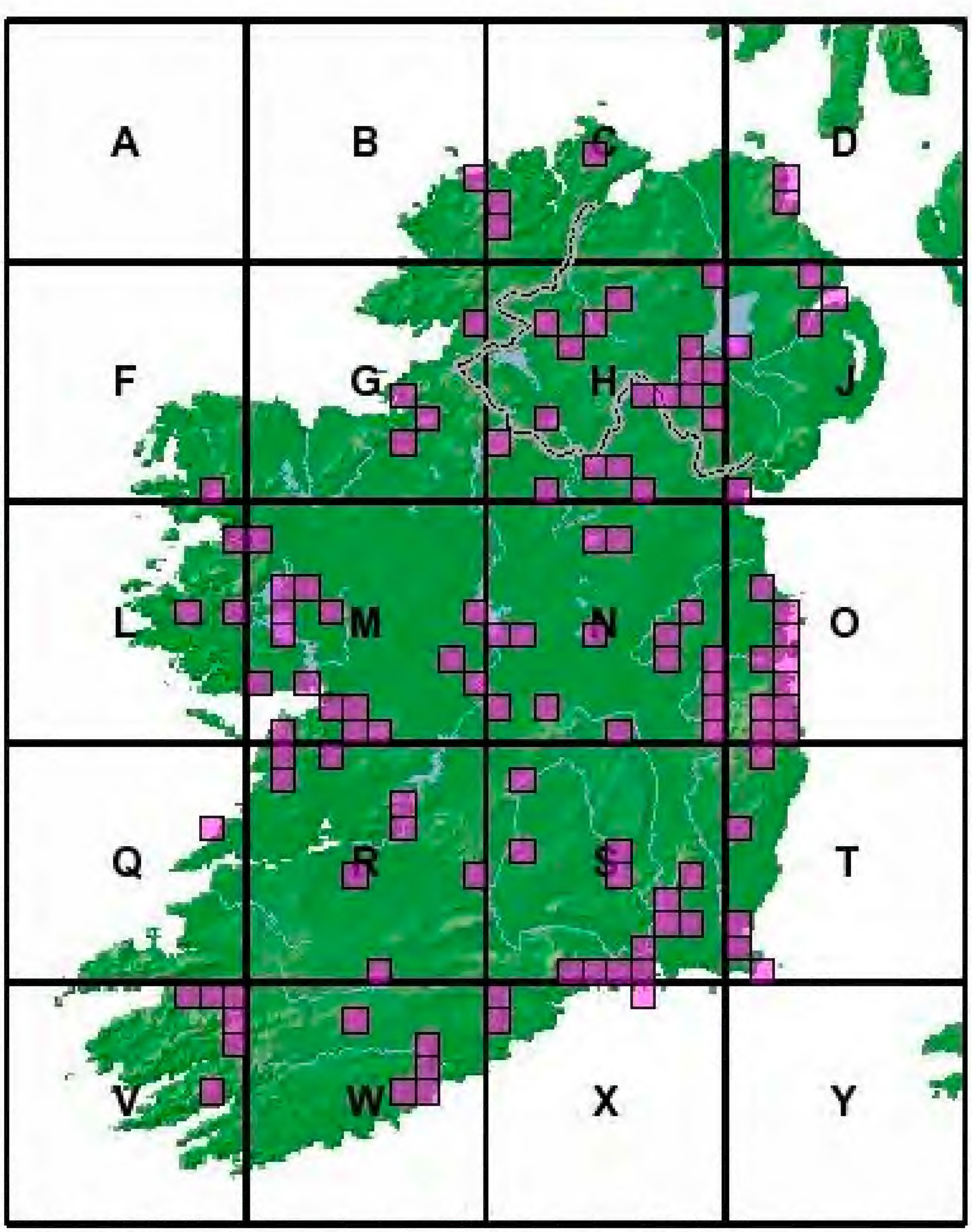

FIGURE 95. The known 10km distribution of *Limnephilus auricula* Curtis, 1834. **Habitat:** ditches, marshes, pools, streams and turloughs which dry up or considerably diminish during the summer. **Flight period:** April – October.

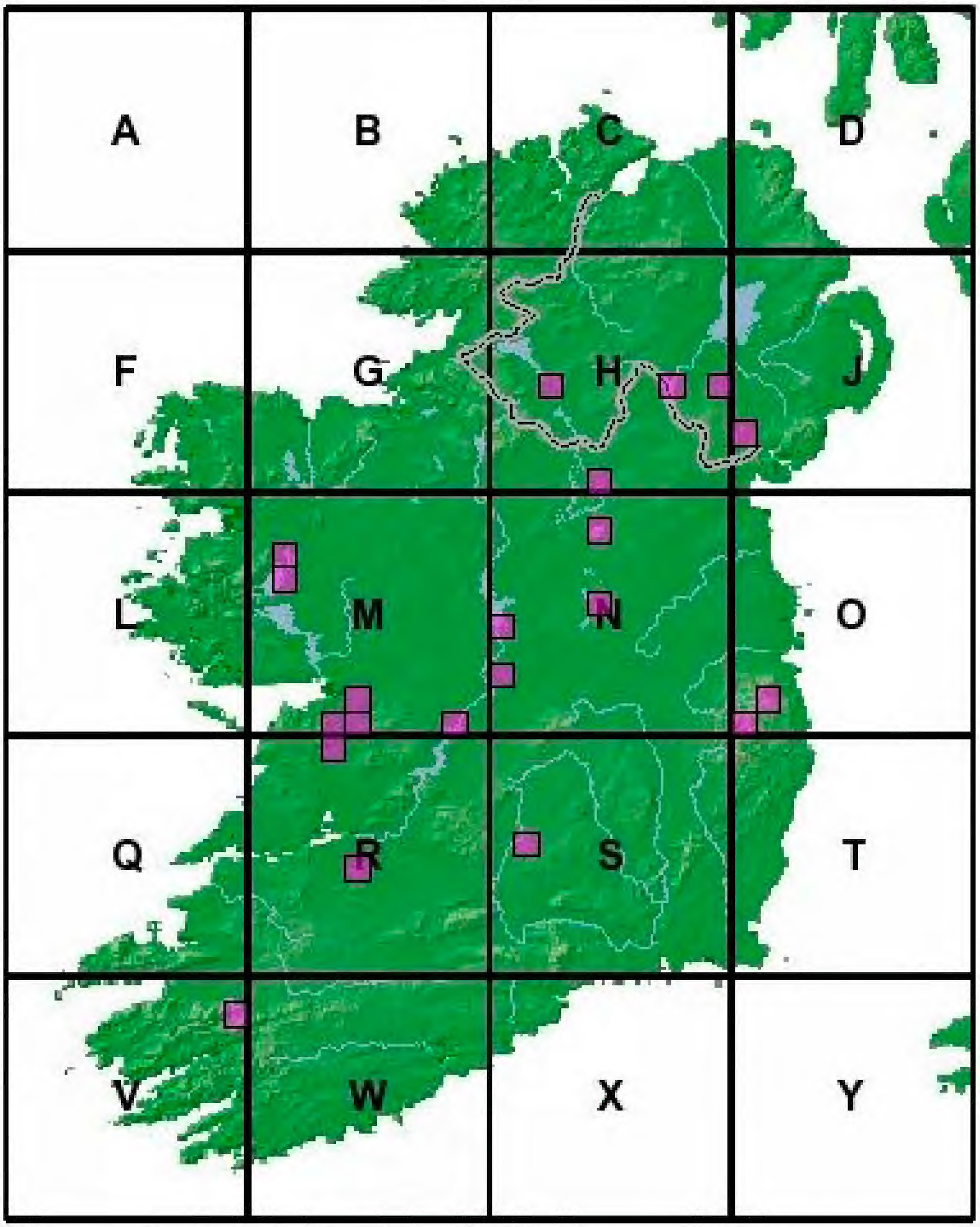

FIGURE 96. The known 10km distribution of *Limnephilus binotatus* Curtis, 1834.
Habitat: turloughs, the reed beds of lakes and also hollows in bogs.
Flight period: May – July.

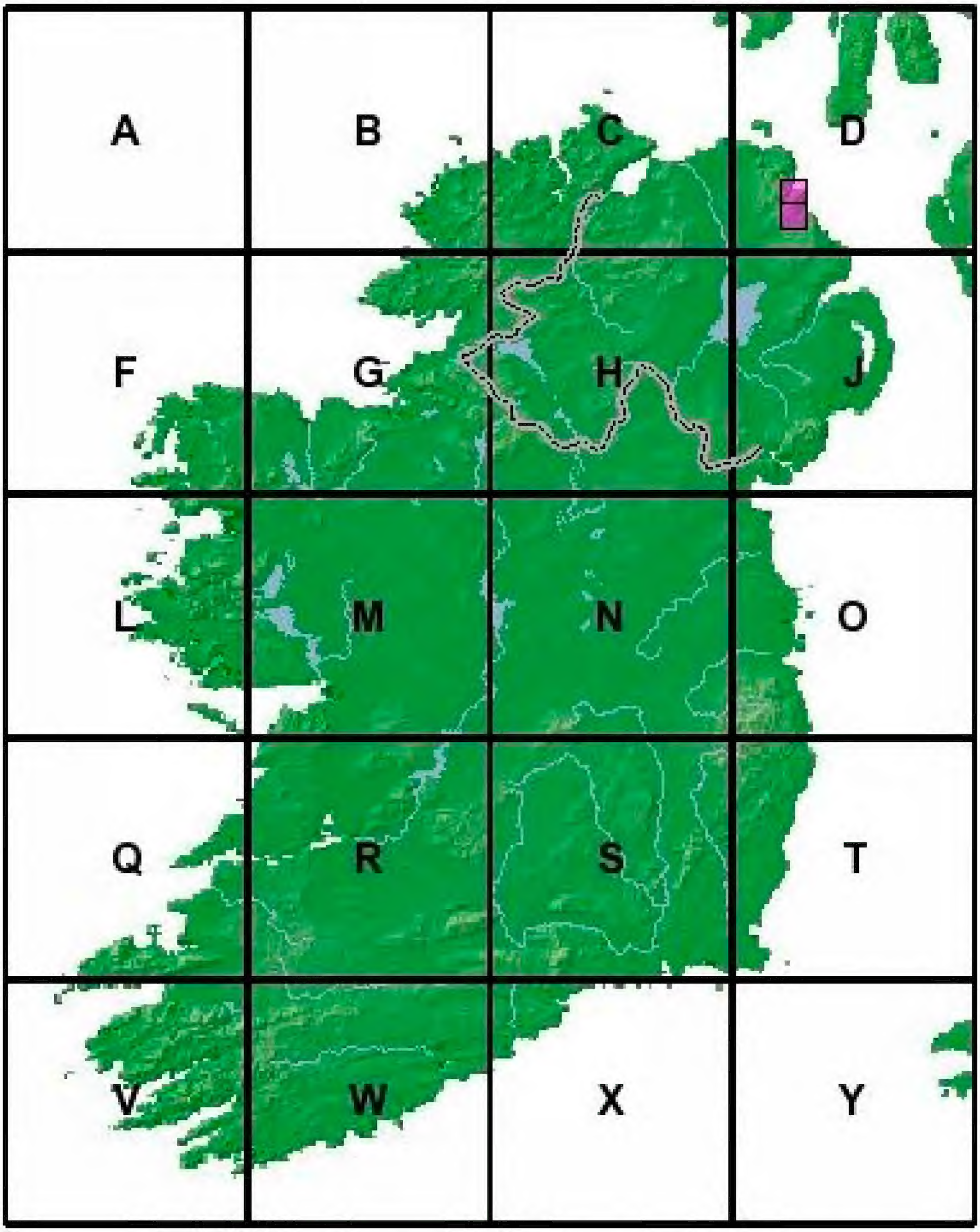

FIGURE 97. The known 10km distribution of *Limnephilus borealis* (Zetterstedt, 1840).
Habitat: lakes.
Flight period: August – September.

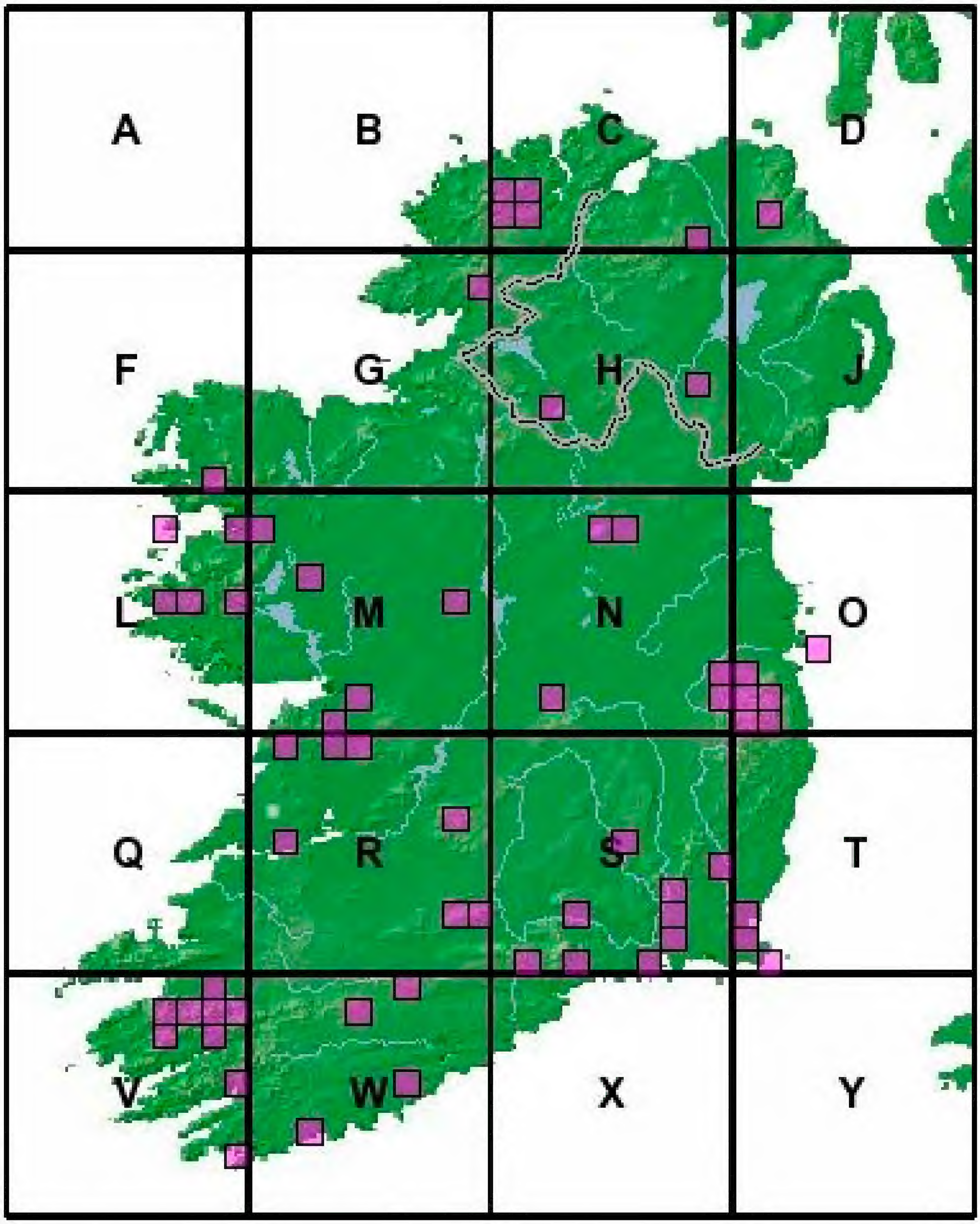

FIGURE 98. The known 10km distribution of *Limnephilus centralis* Curtis, 1834.
Habitat: water bodies that dry up or diminish during the summer including ditches, pools, puddles, ponds, small streams, turloughs, even footprints. **Flight period:** May – September.

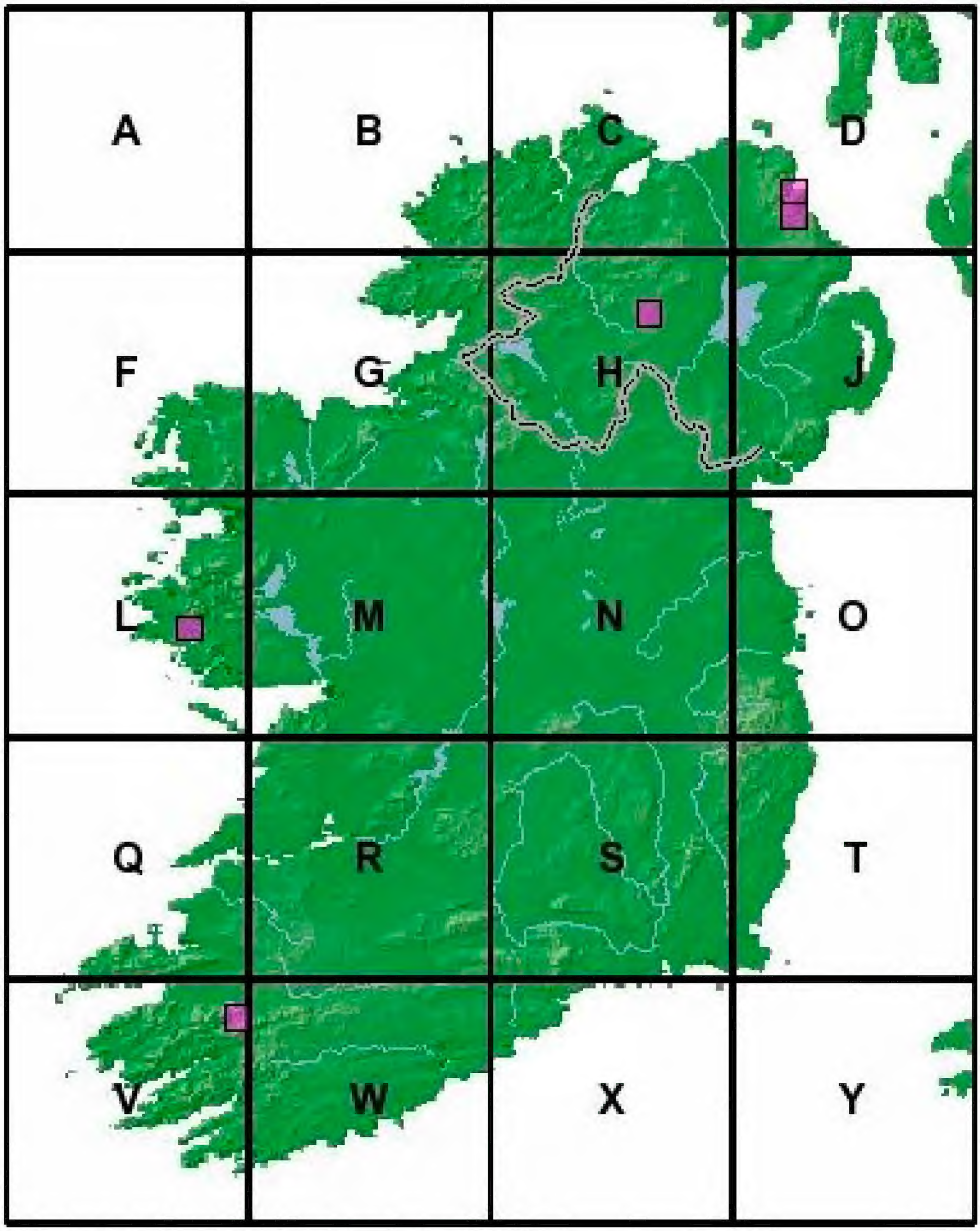

FIGURE 99. The known 10km distribution of *Limnephilus coenosus* Curtis, 1834.
Habitat: permanent small pools on peat moorland and on the surface of raised bogs.
Flight period: September (Britain: May – October (Wallace, pers. comm.)).

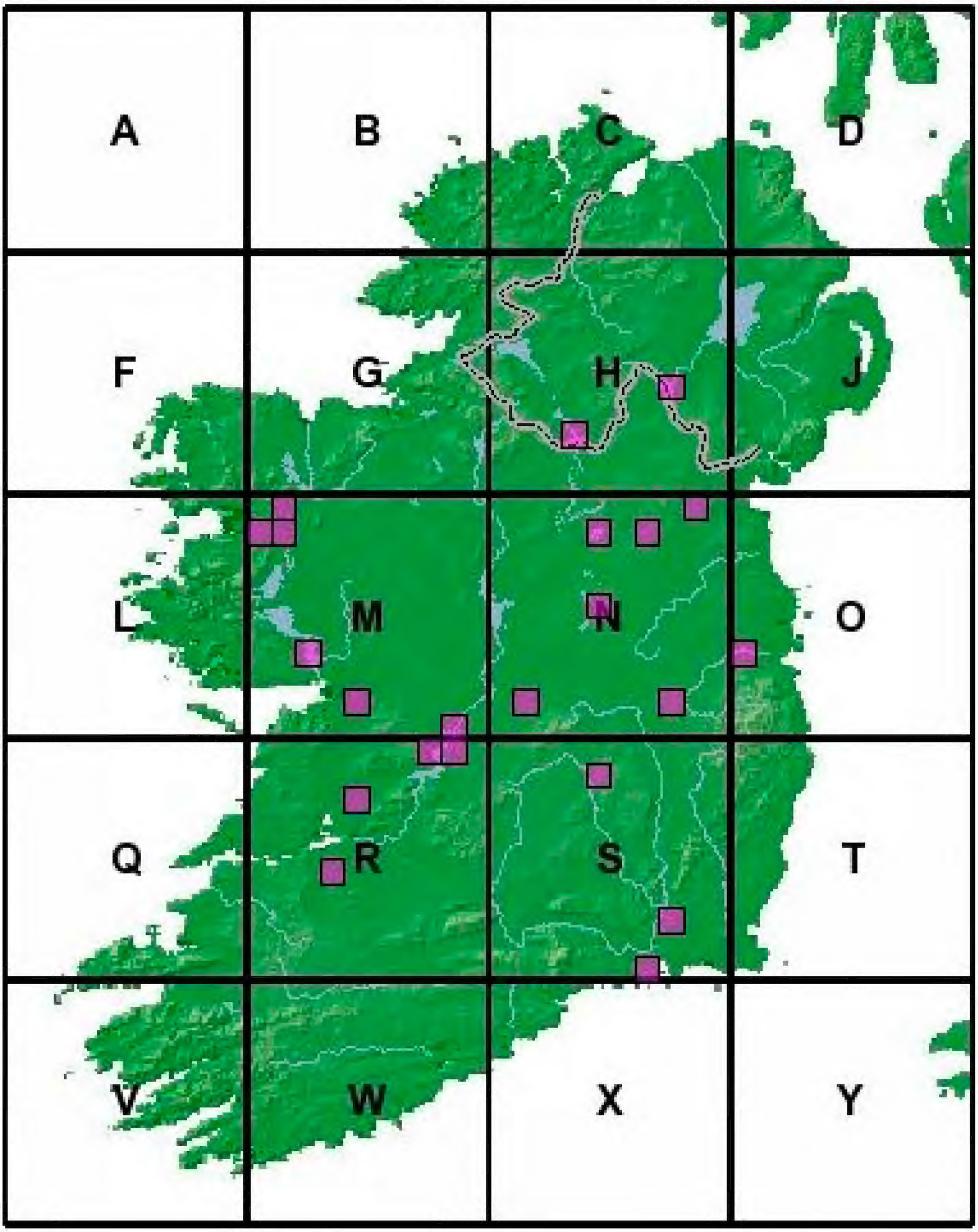

FIGURE 100. The known 10km distribution of *Limnephilus decipiens* (Kolenati, 1848).
Habitat: lakes, turloughs and pools/hollows in bogs.
Flight period: May – October.

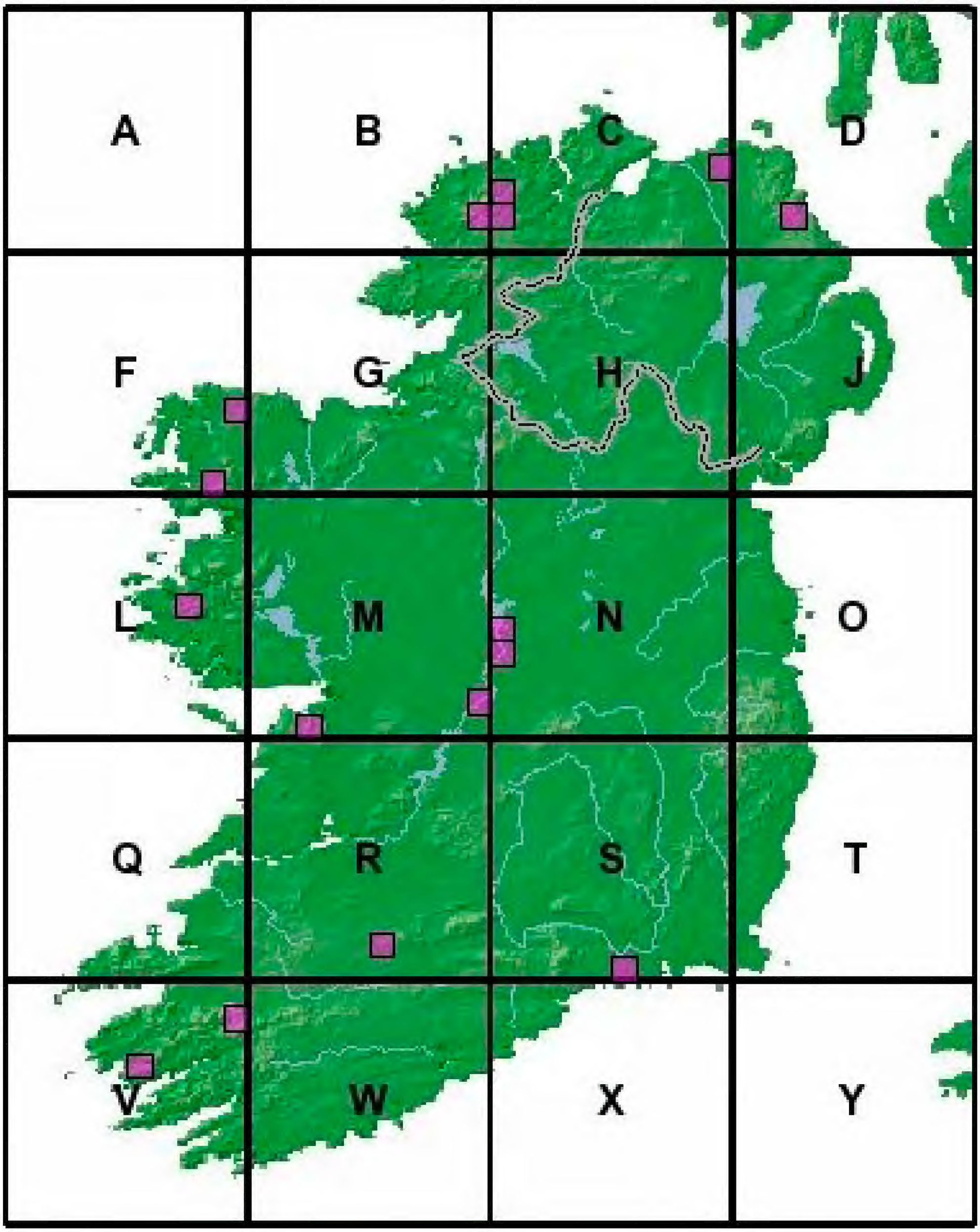

FIGURE 101. The known 10km distribution of *Limnephilus elegans* Curtis, 1834.
Habitat: small bog pools amongst *Sphagnum* and sedges.
Flight period: May – July.

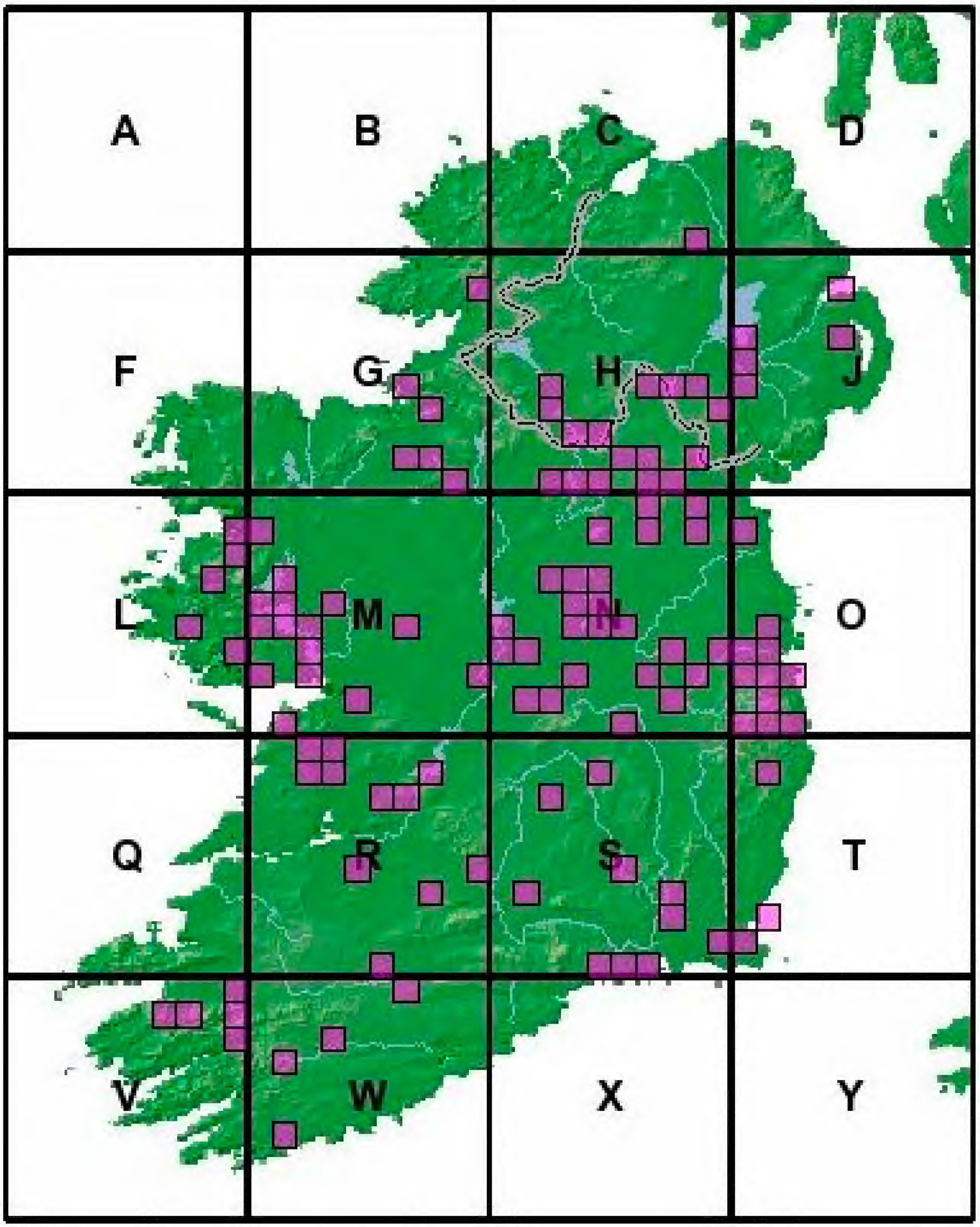

FIGURE 102. The known 10km distribution of *Limnephilus flavicornis* (Fabricius, 1787). **Habitat:** bog dykes, canals, fens, lakes, marshes, ponds, rivers and turloughs, also waters that dry up in the summer. **Flight period:** May – November.

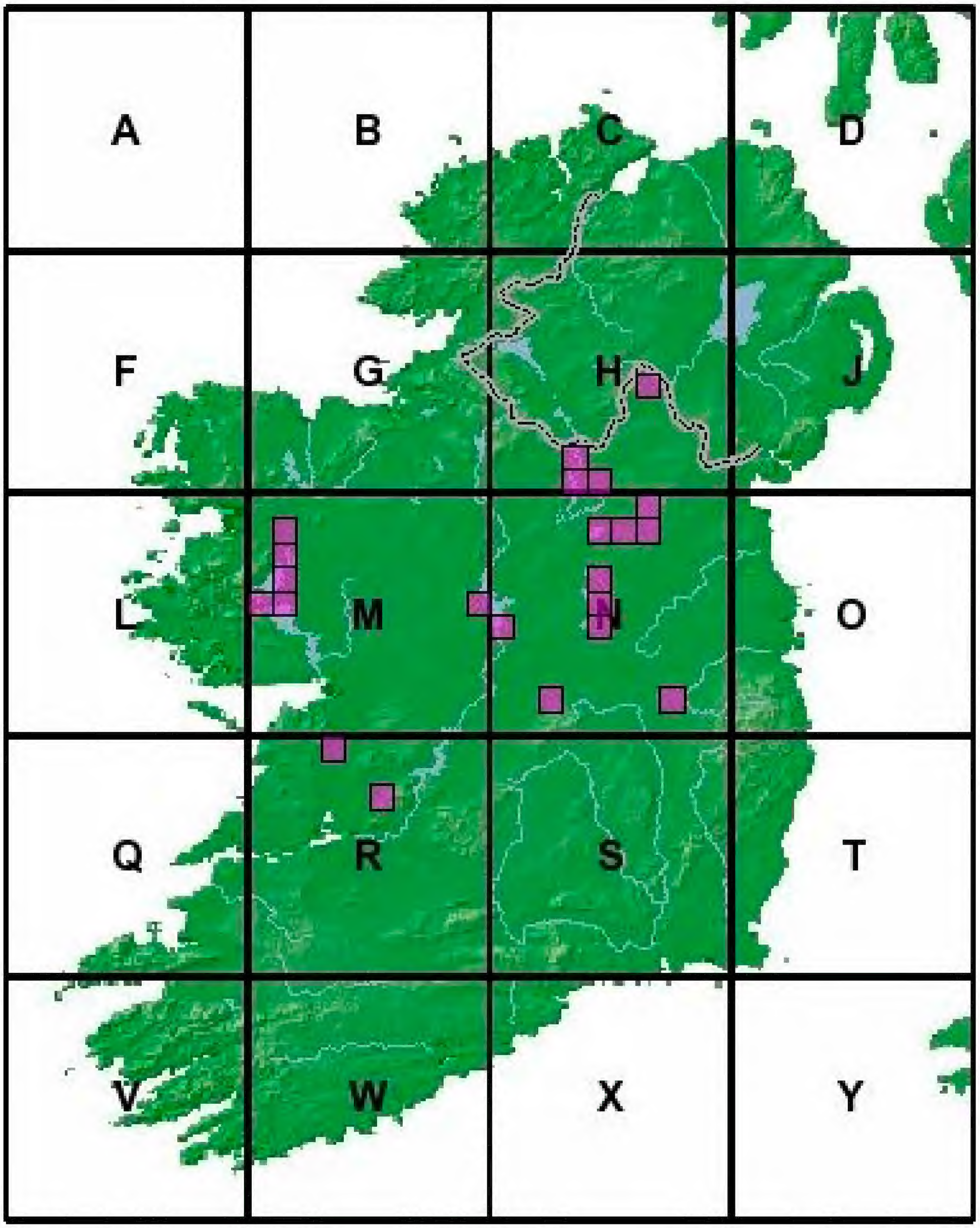

FIGURE 103. The known 10km distribution of *Limnephilus fuscinervis* (Zetterstedt, 1840).
Habitat: fens, lakes and pools among plants or litter of *Carex* and *Phragmites*.
Flight period: May – September.

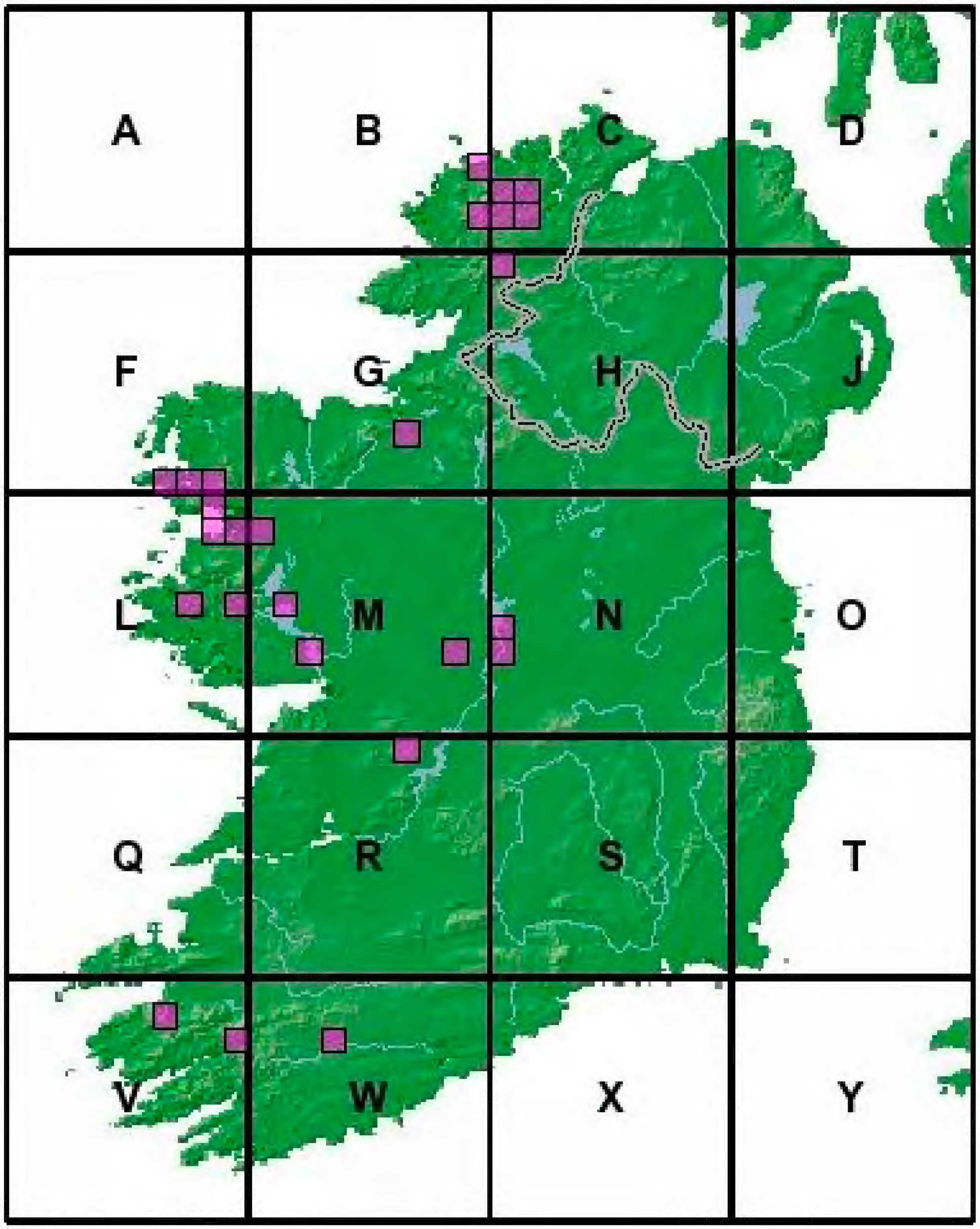

FIGURE 104. The known 10km distribution of *Limnephilus griseus* (Linnaeus, 1758). **Habitat:** pools and marshy spots, which dry up or considerably diminish in the summer, on bogs or near lakes and rivers. **Flight period:** May – September.

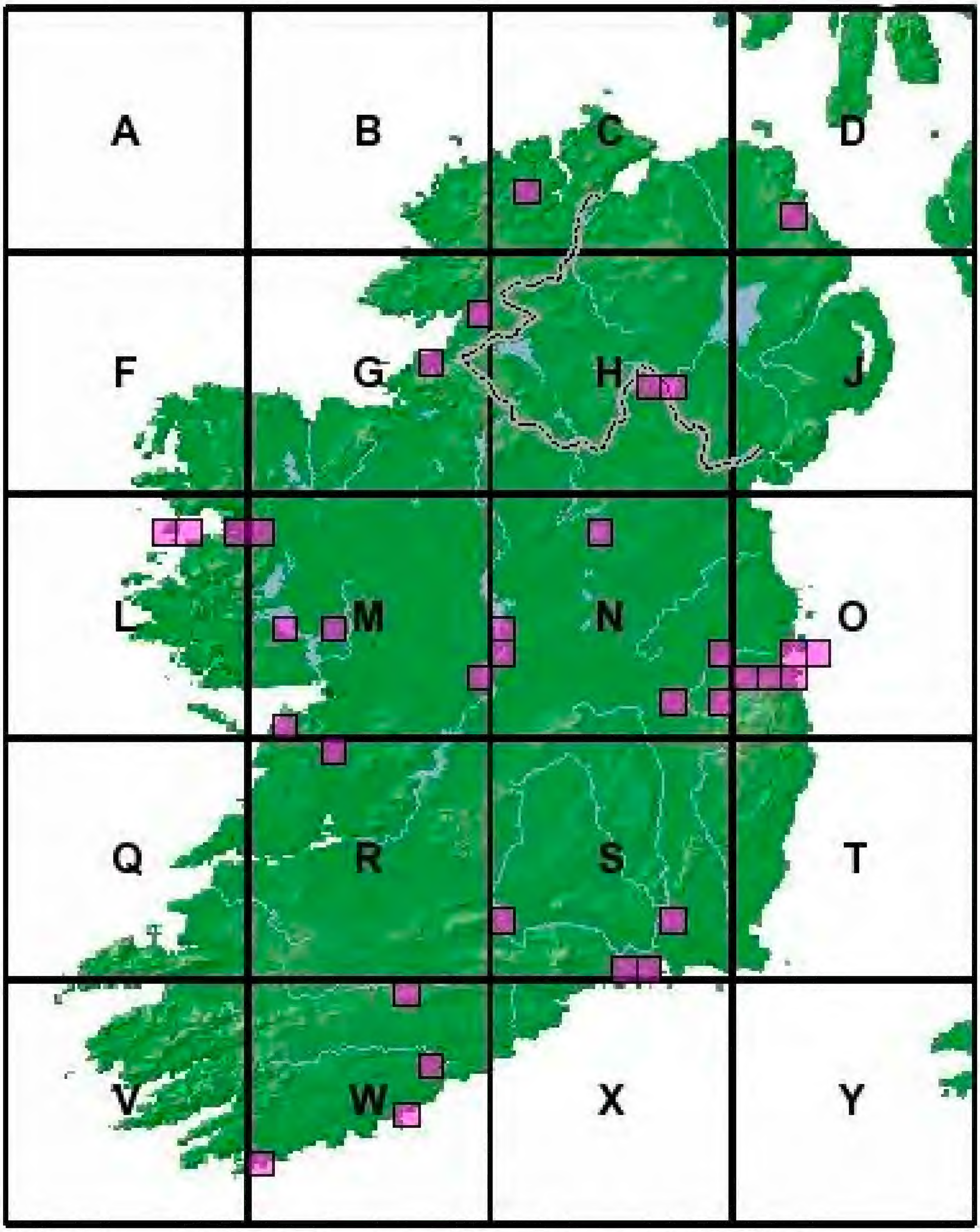

FIGURE 105. The known 10km distribution of *Limnephilus hirsutus* (Pictet, 1834).
Habitat: tiny trickles and ditches, usually on bare clay, common on suitable seaside cliffs.
Flight period: May – September.

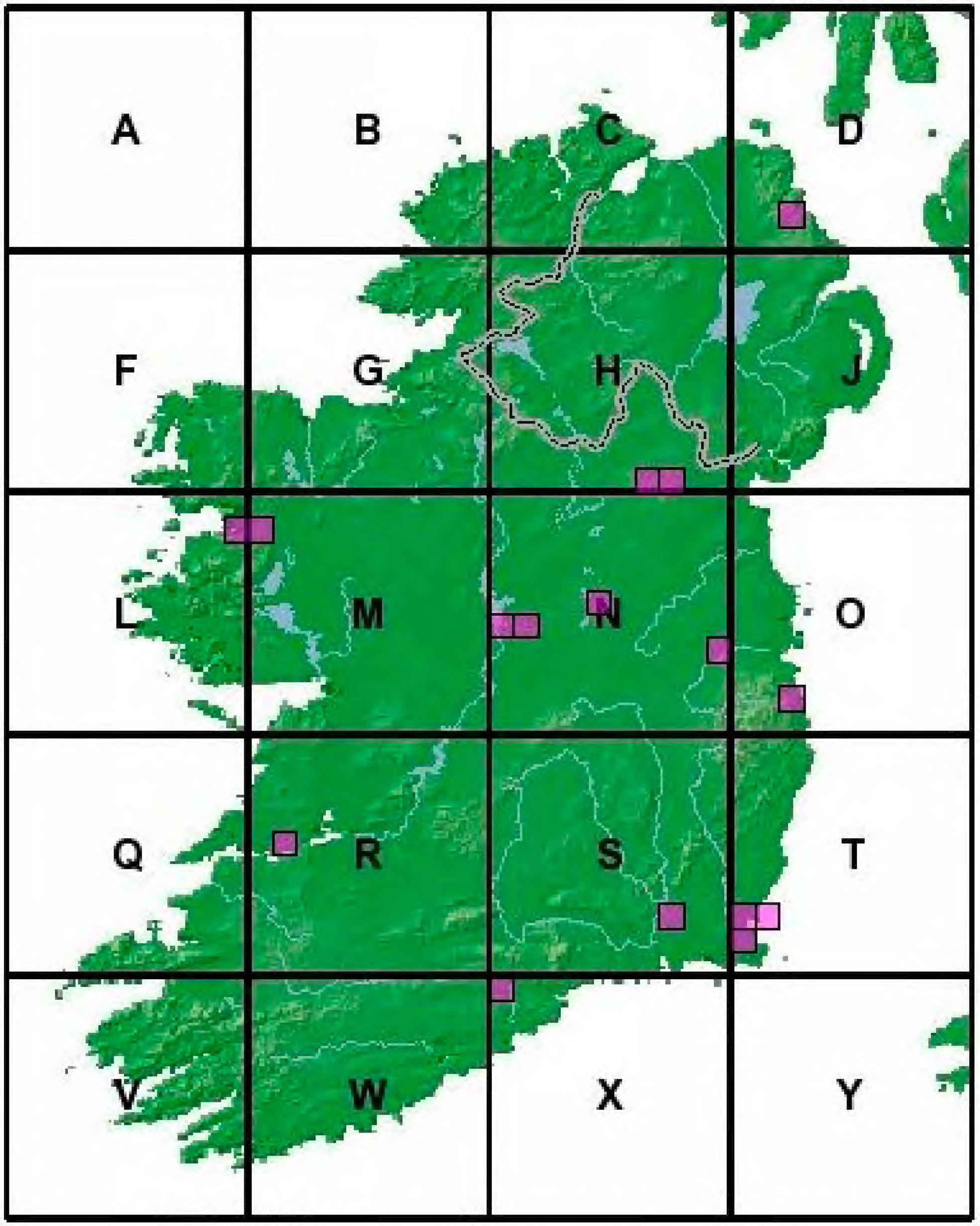

FIGURE 106. The known 10km distribution of *Limnephilus ignavus* Mclachlan, 1865.
Habitat: flowing marshes and bog pools.
Flight period: July – September.

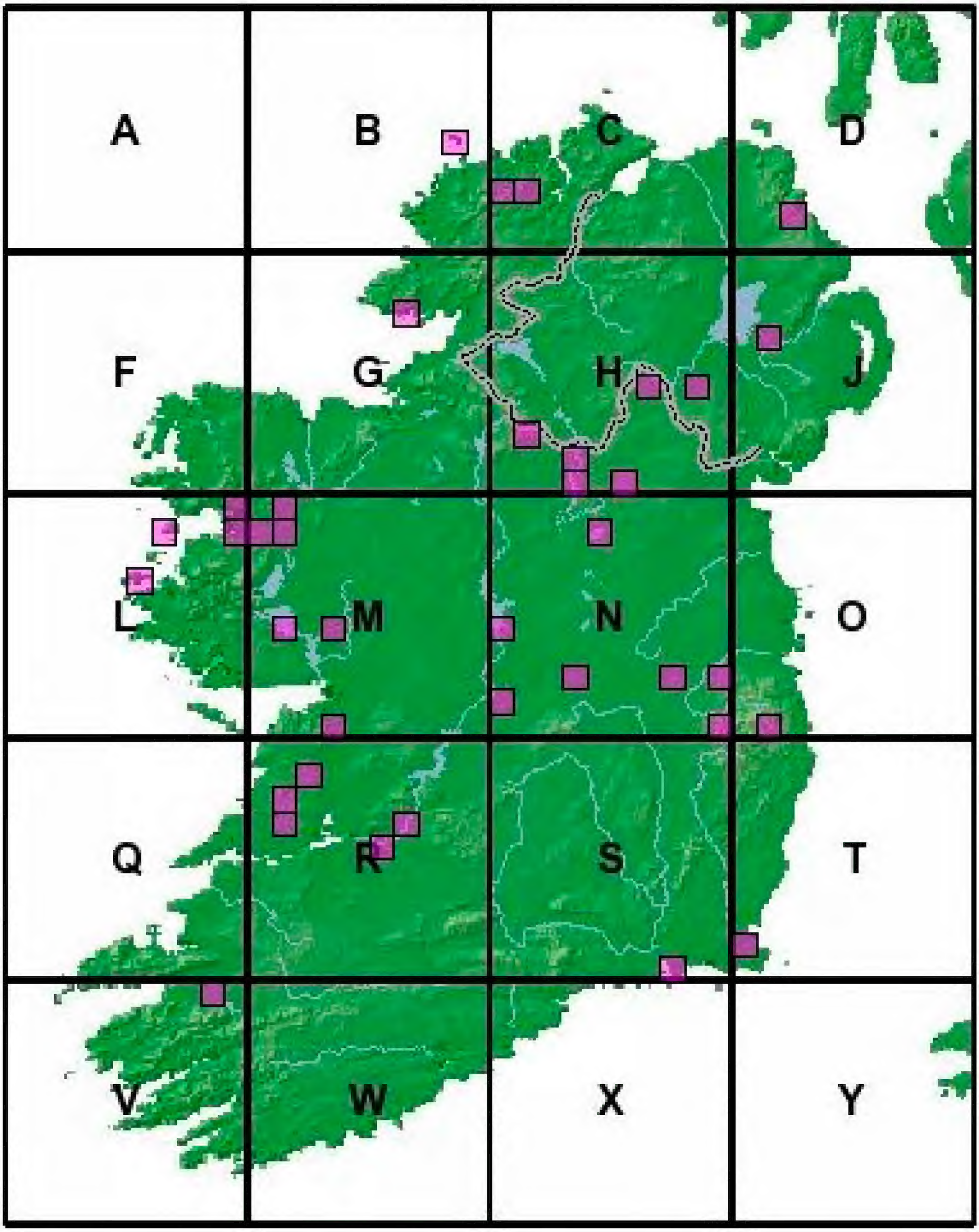

FIGURE 107. The known 10km distribution of *Limnephilus incisus* Curtis, 1834.
Habitat: marshy areas with emergent vegetation.
Flight period: May – September.

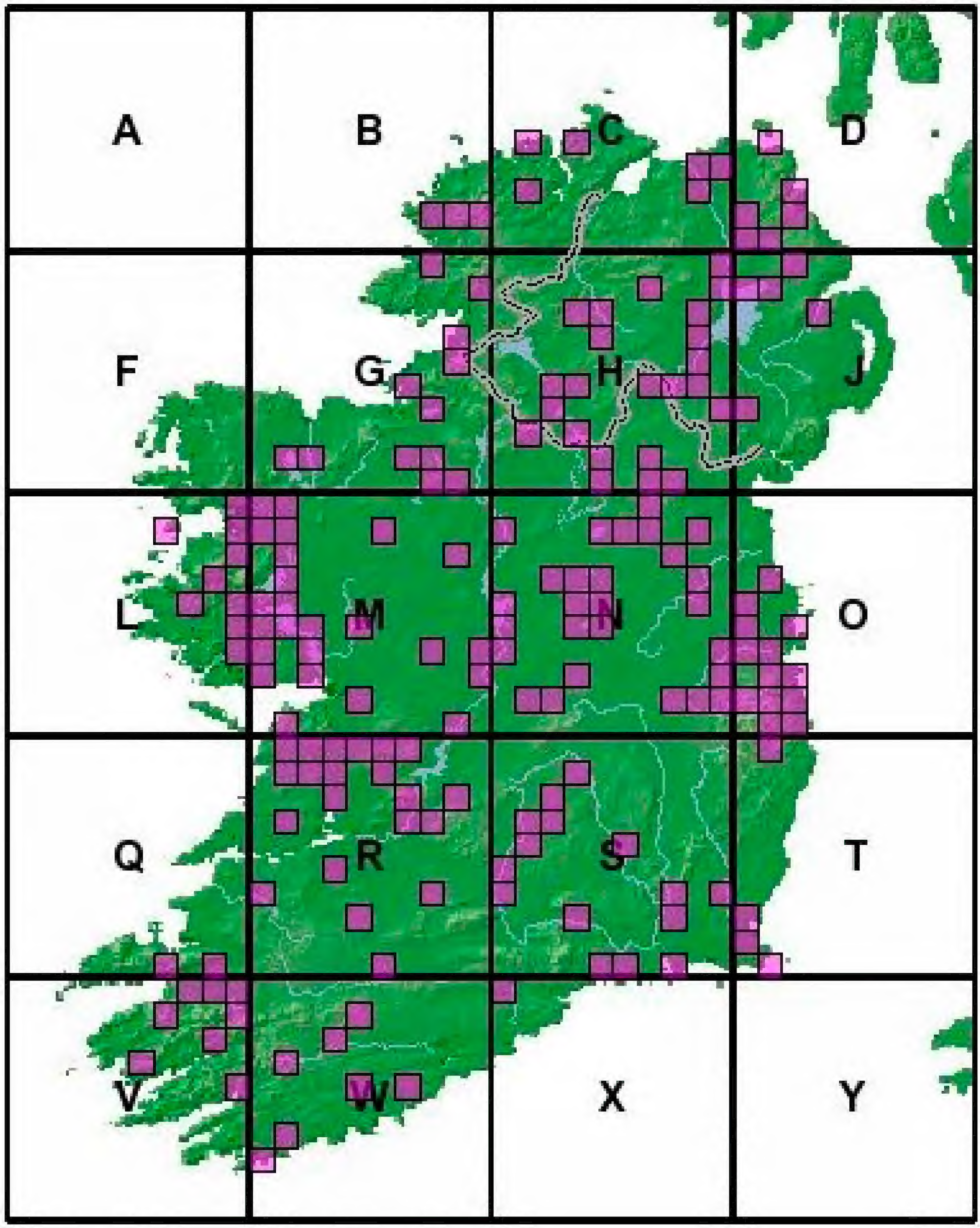

FIGURE 108. The known 10km distribution of *Limnephilus lunatus* Curtis, 1834.
Habitat: fens, lakes, marshes, ponds, reservoirs, rivers, streams and turloughs.
Flight period: April – November.

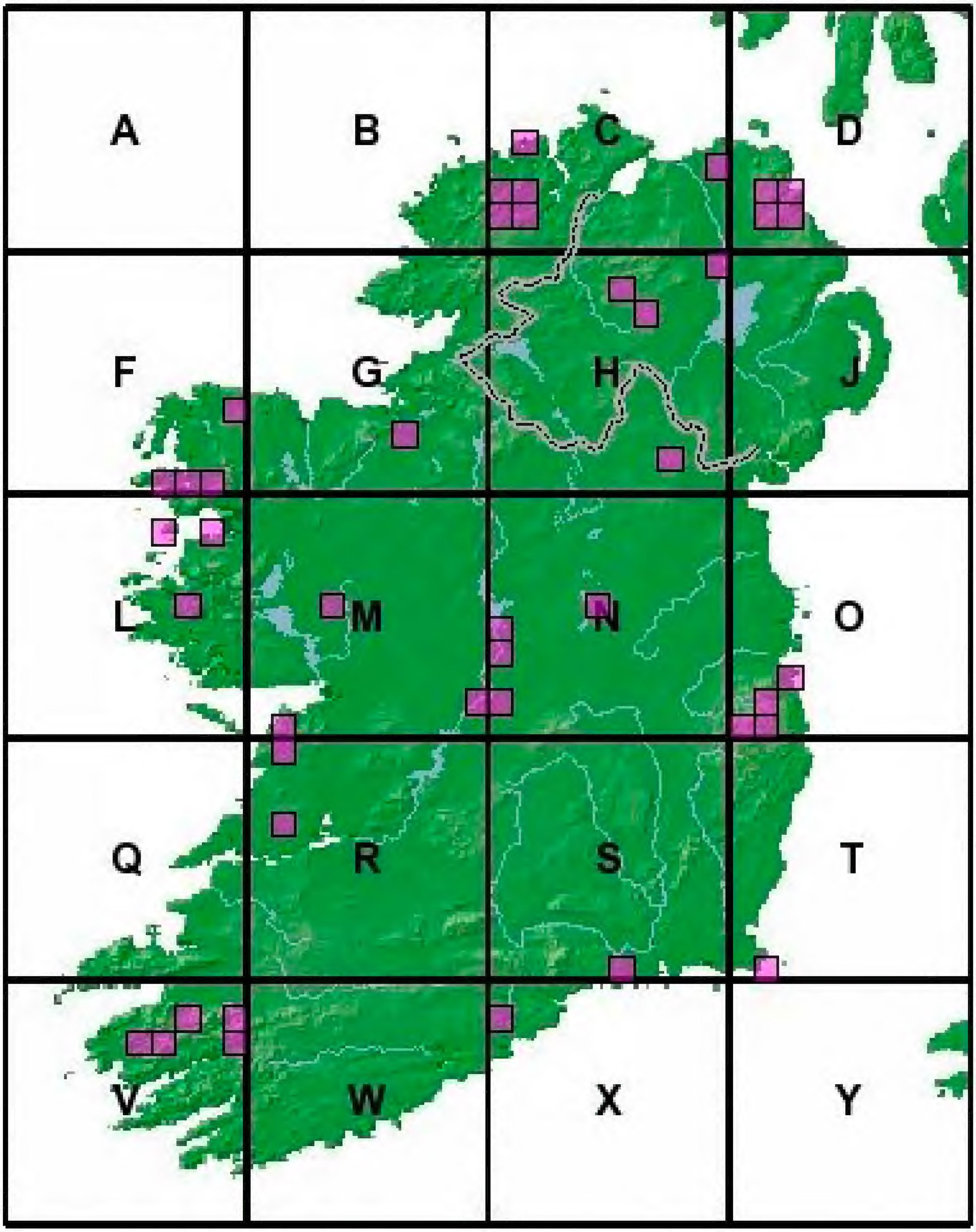

FIGURE 109. The known 10km distribution of *Limnephilus luridus* Curtis, 1834.
Habitat: water bodies that dry up or diminish in the summer including callows (water meadows) along rivers, woodland or bog pools/puddles. **Flight period:** May – August.

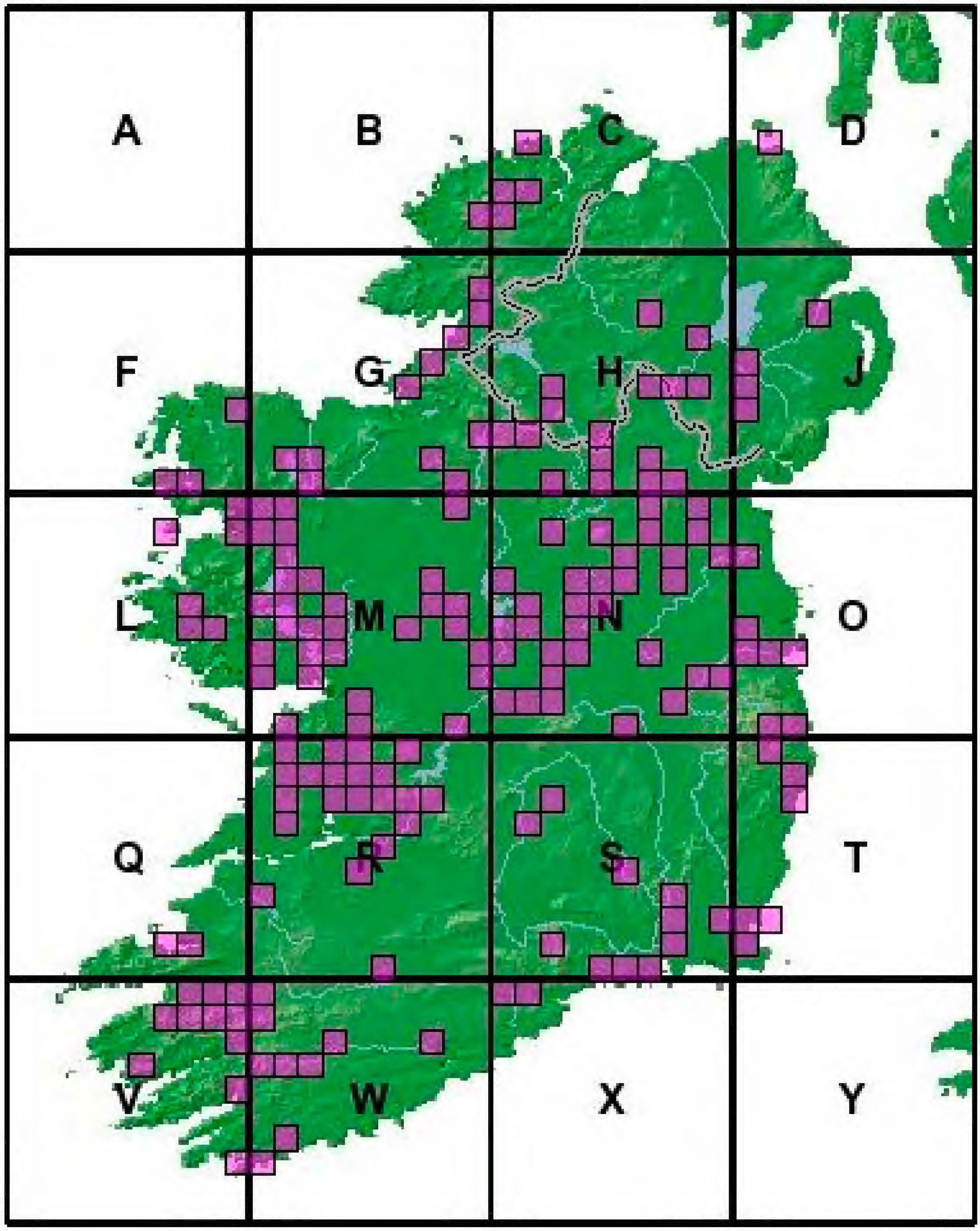

FIGURE 110. The known 10km distribution of *Limnephilus marmoratus* Curtis, 1834. **Habitat:** lakes, ponds, reservoirs, rivers, turloughs, pools and hollows in bogs, peat cuttings and ditches. Some habitats dry out in the summer. **Flight period:** June – October.

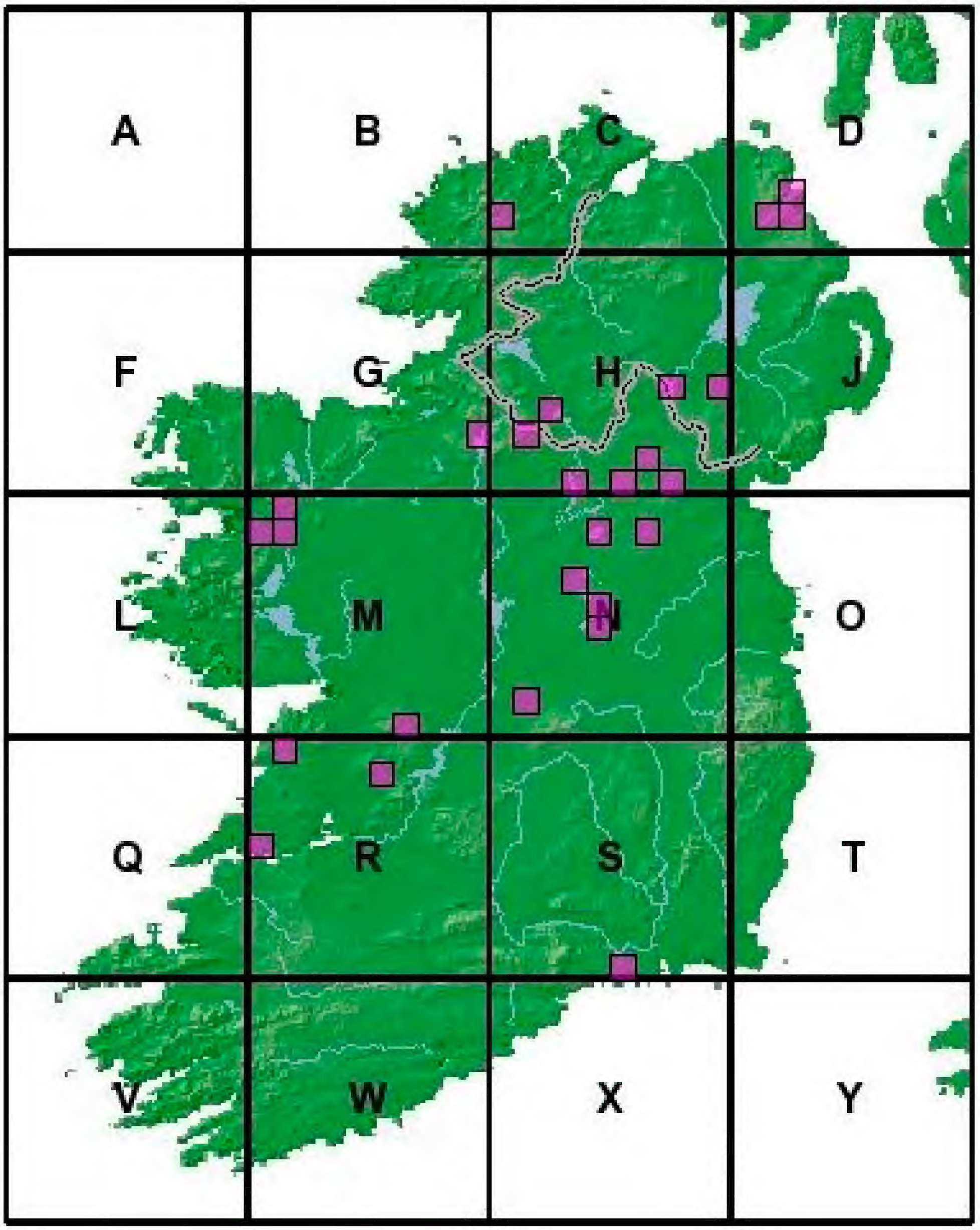

FIGURE 111. The known 10km distribution of *Limnephilus nigriceps* (Zetterstedt, 1840).
Habitat: lakes, ponds, and pools in bogs.
Flight period: August – November.

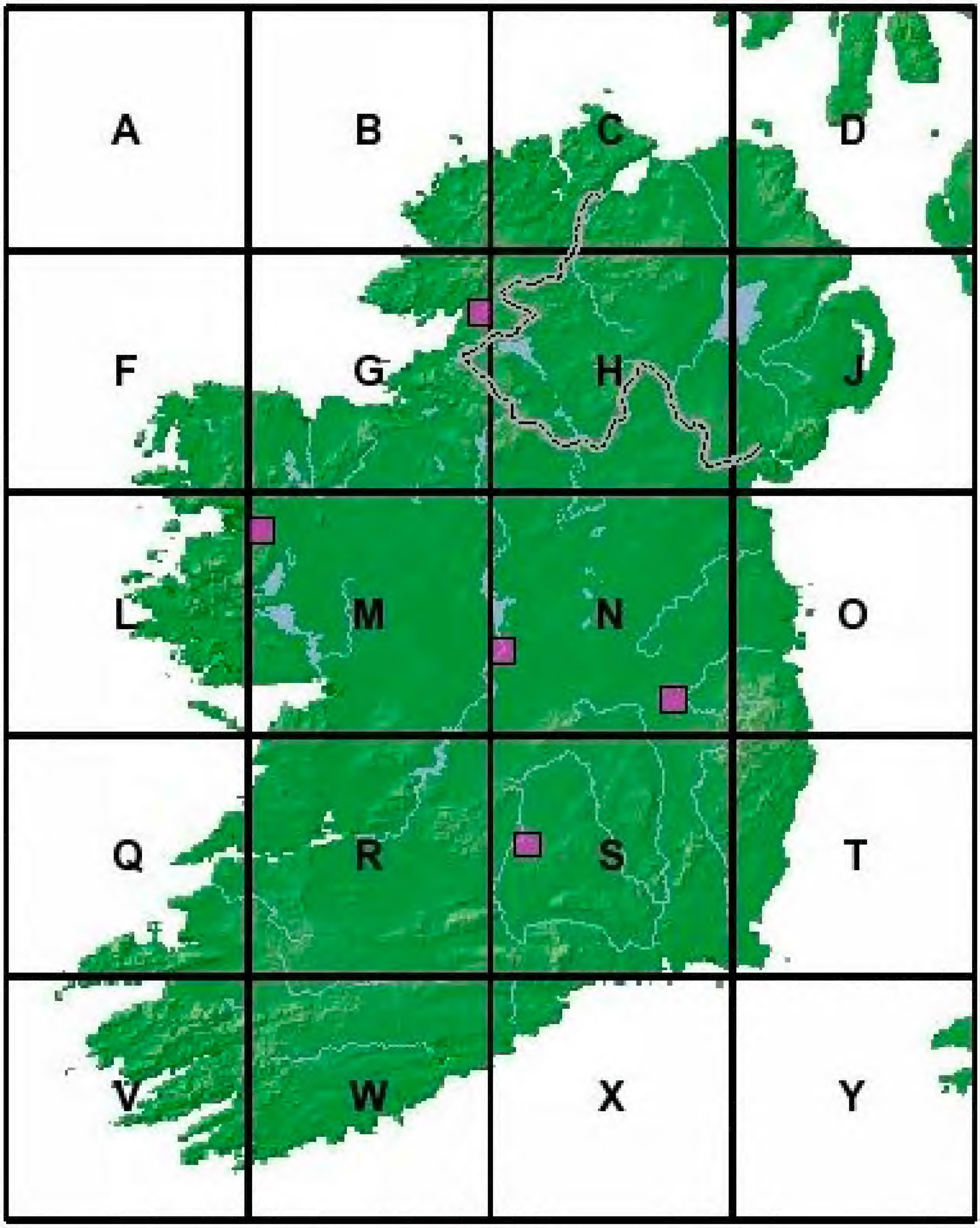

FIGURE 112. The known 10km distribution of *Limnephilus pati* O'Connor, 1980.
Habitat: limnocrene tufa springs in fens.
Flight period: June – July.

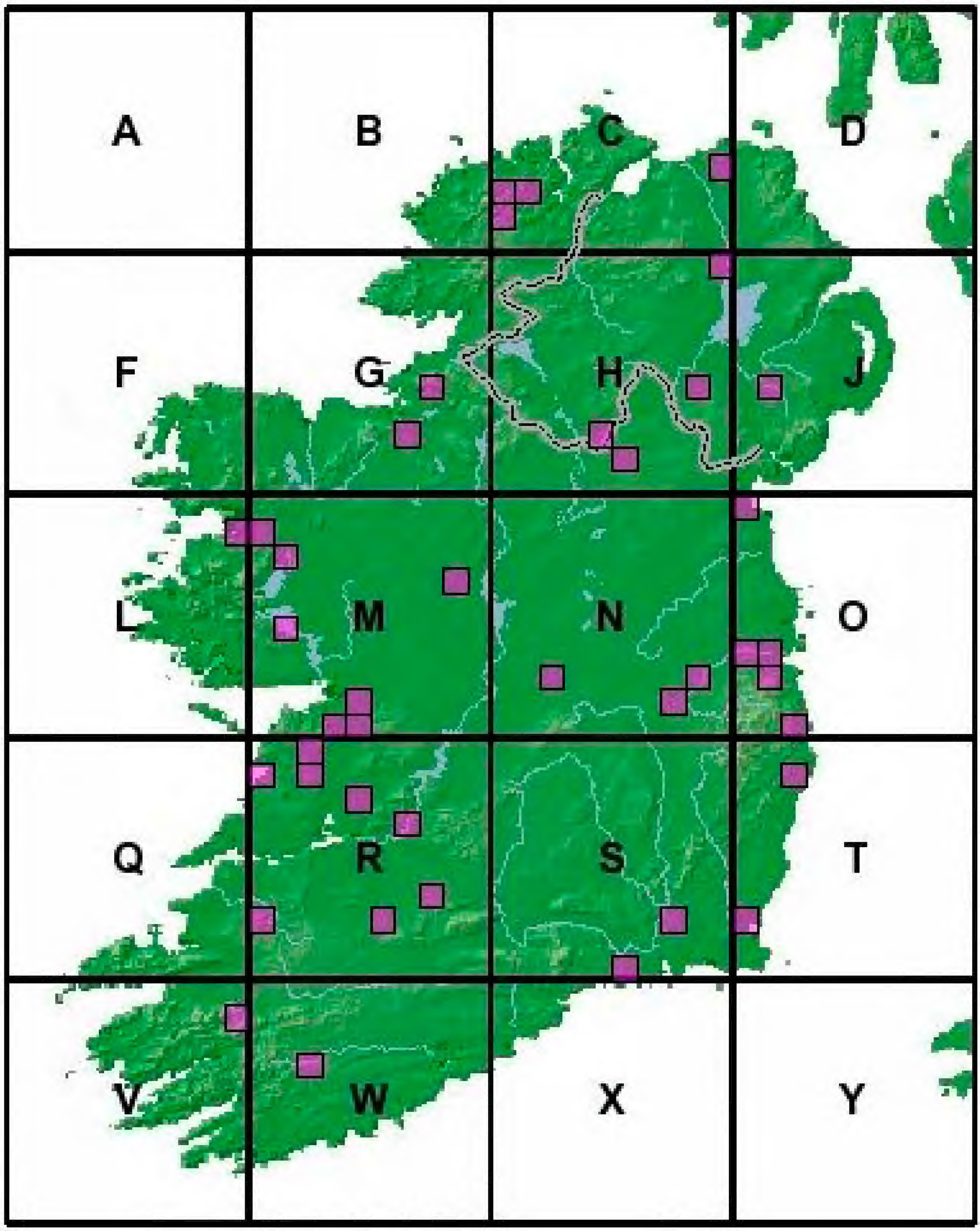

FIGURE 113. The known 10km distribution of *Limnephilus rhombicus* (Linnaeus, 1758).
Habitat: bogs, fens, lakes, reservoirs, rivers, streams and turloughs.
Flight period: May – August, (October).

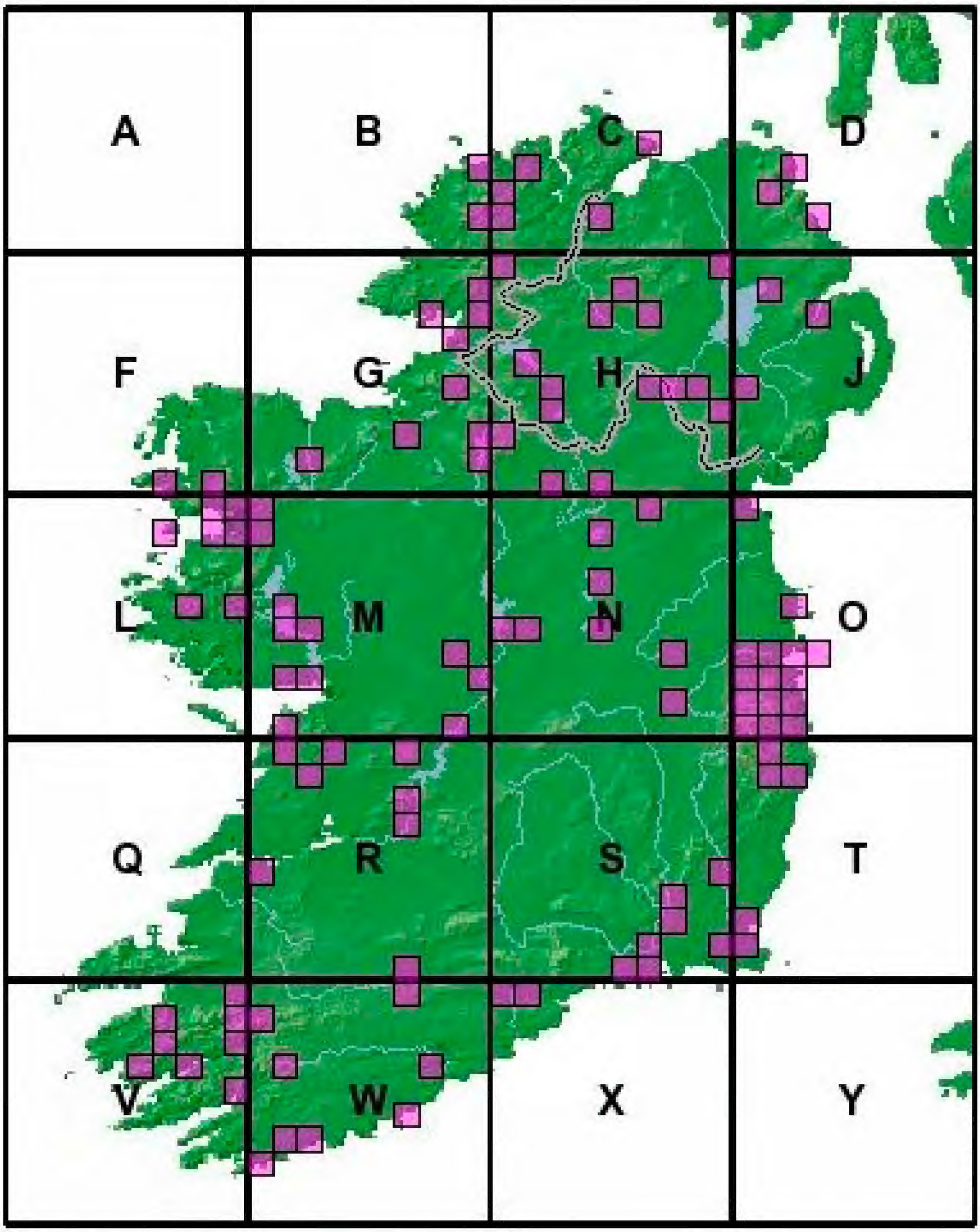

FIGURE 114. The known 10km distribution of *Limnephilus sparsus* Curtis, 1834.
Habitat: hoof-prints, marshes, pools, puddles, streams and pond edges etc. that dry out during the summer. **Flight period:** April – October.

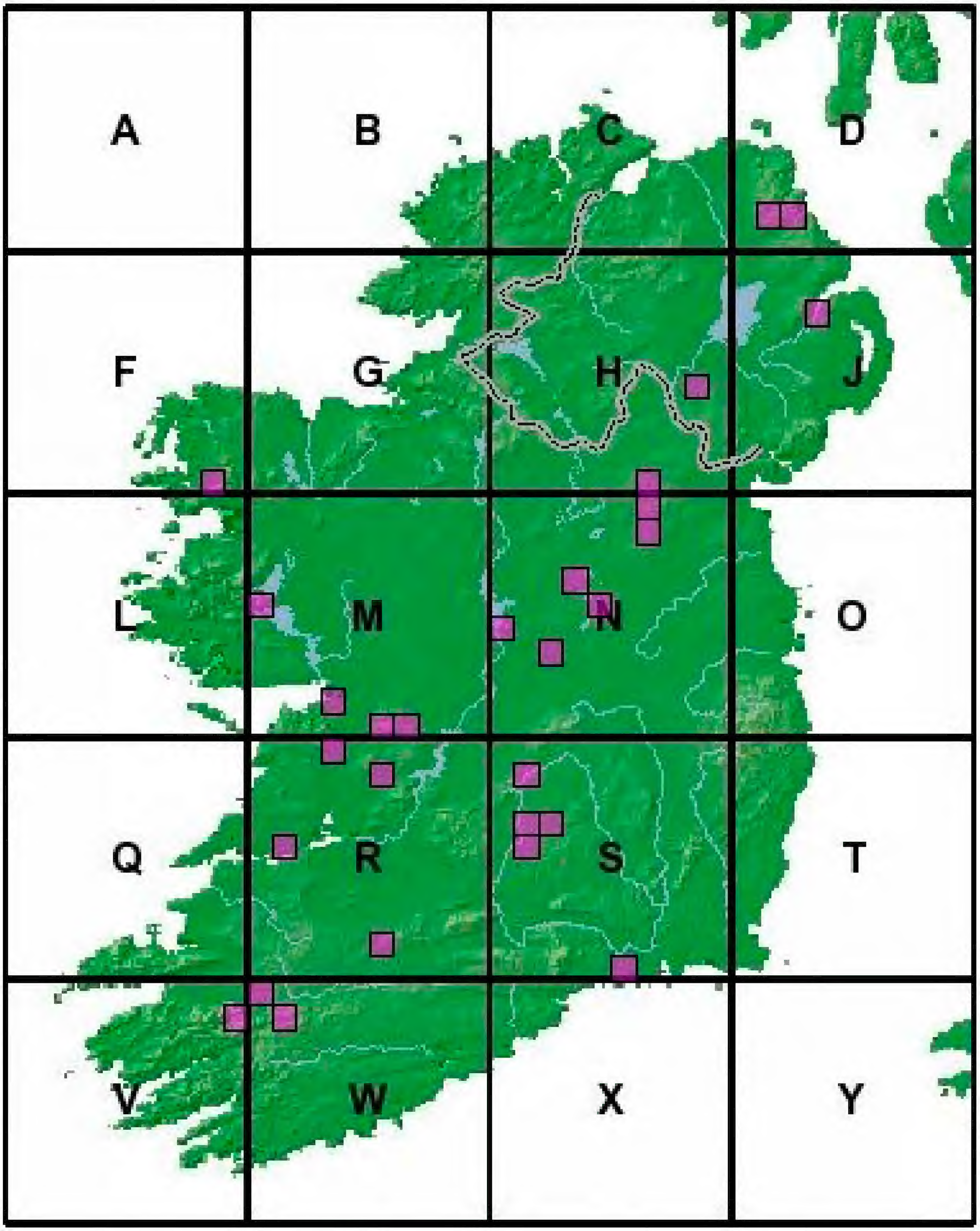

FIGURE 115. The known 10km distribution of *Limnephilus stigma* Curtis, 1834.
Habitat: bogs, lakes and rivers.
Flight period: May – October.

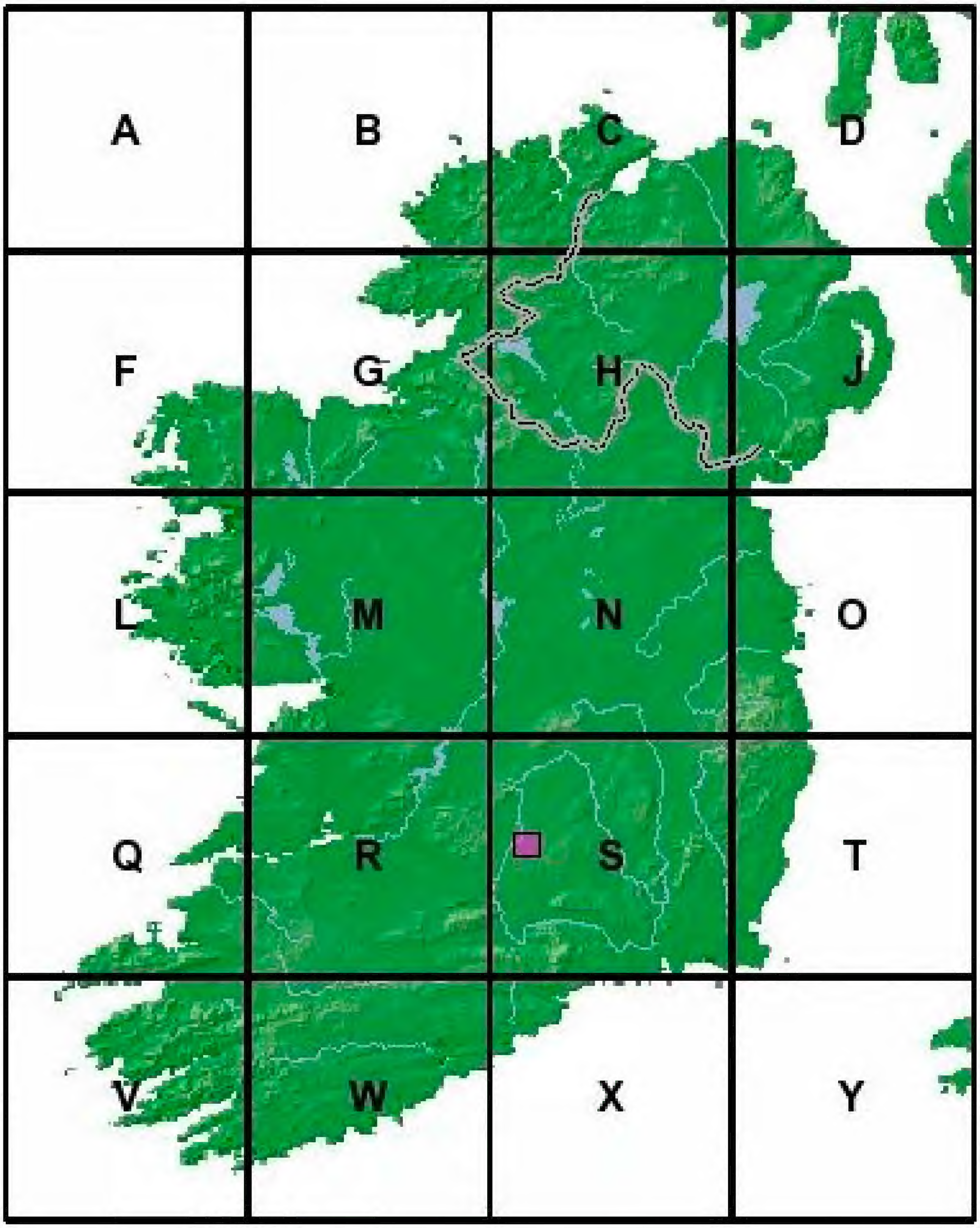

FIGURE 116. The known 10km distribution of *Limnephilus tauricus* Schmid, 1964. **Habitat:** a ♀ taken in a light-trap site adjacent to a calcium-rich, alkaline lake with a nearby short stream leading from a spring. **Flight period:** June (Britain: July – August).

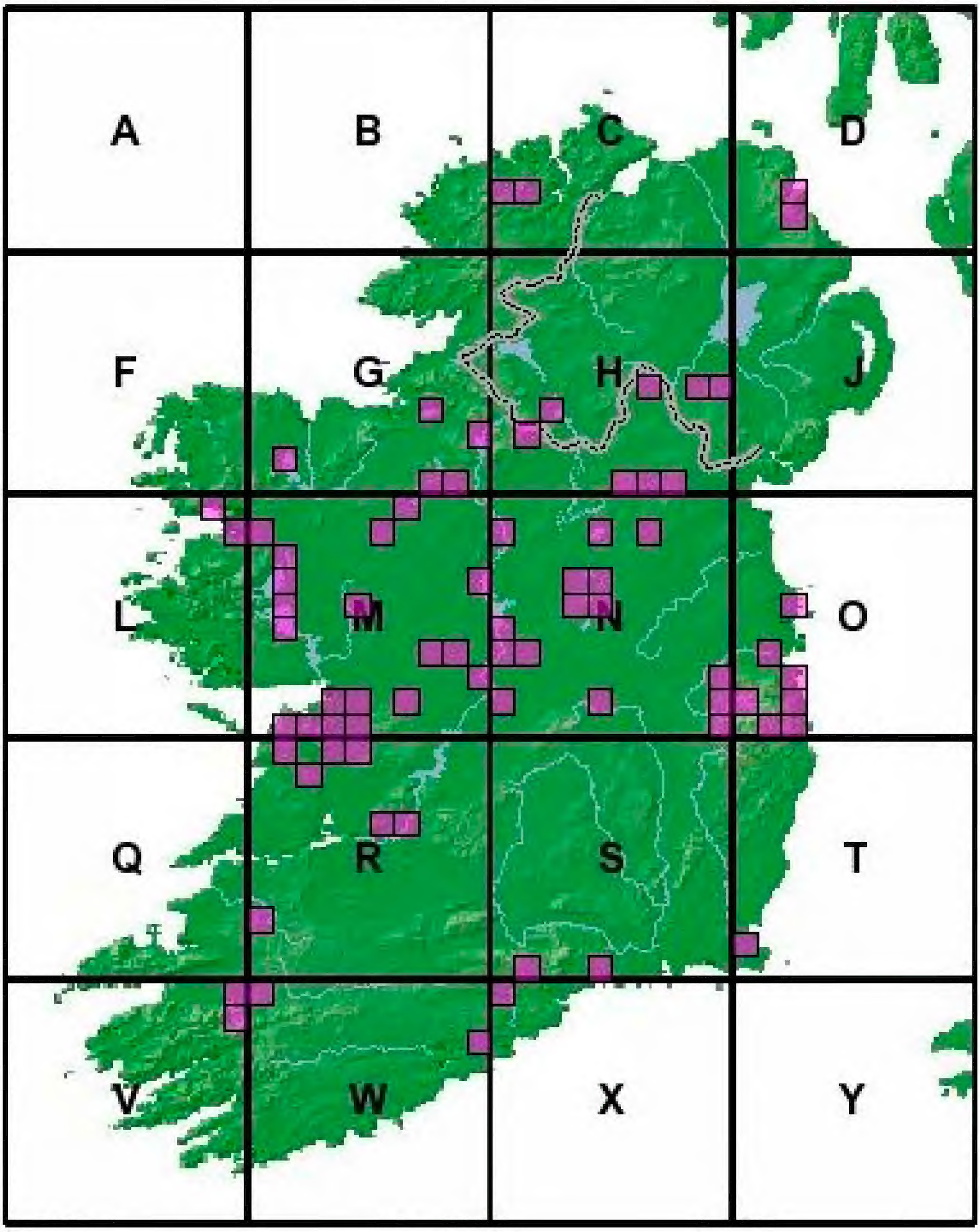

FIGURE 117. The known 10km distribution of *Limnephilus vittatus* (Fabricius, 1798).
Habitat: lakes, marshes, ponds, reservoirs, streams and turloughs.
Flight period: May – October.

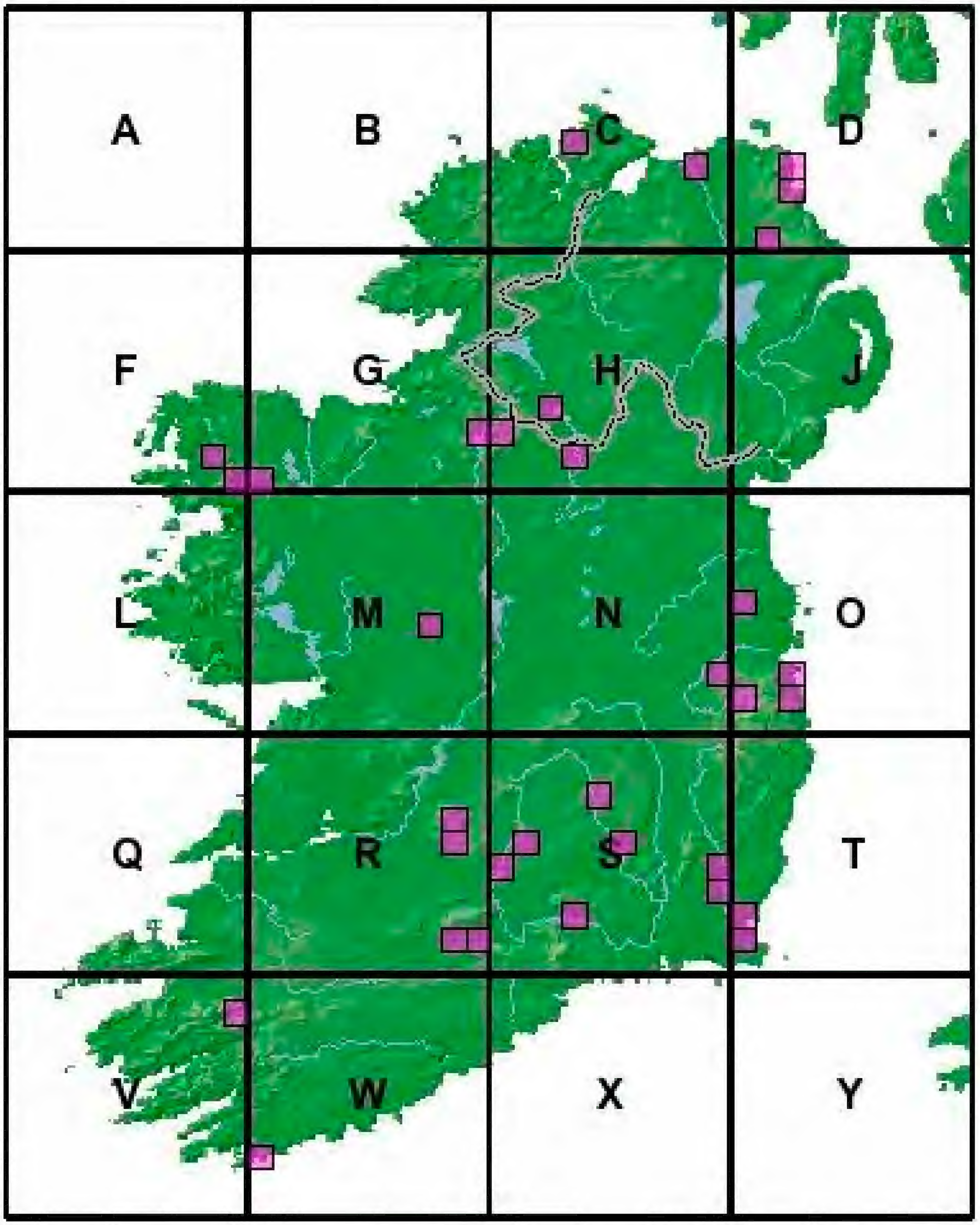

FIGURE 118. The known 10km distribution of *Halesus digitatus* (Schrank, 1781).
Habitat: rivers and streams.
Flight period: September – November.

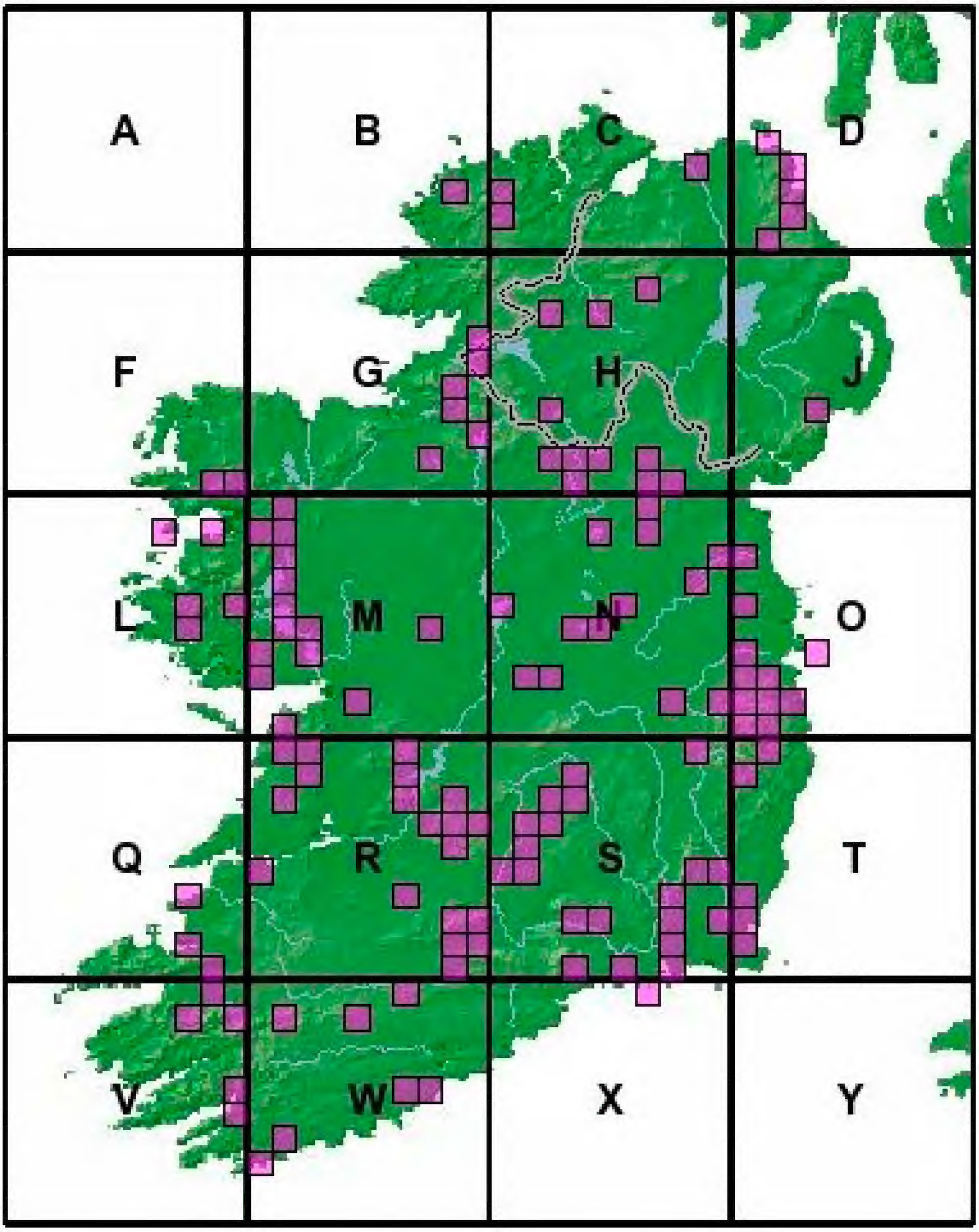

FIGURE 119. The known 10km distribution of *Halesus radiatus* (Curtis, 1834).
Habitat: lakes, ponds, rivers and streams.
Flight period: (January), May – November.

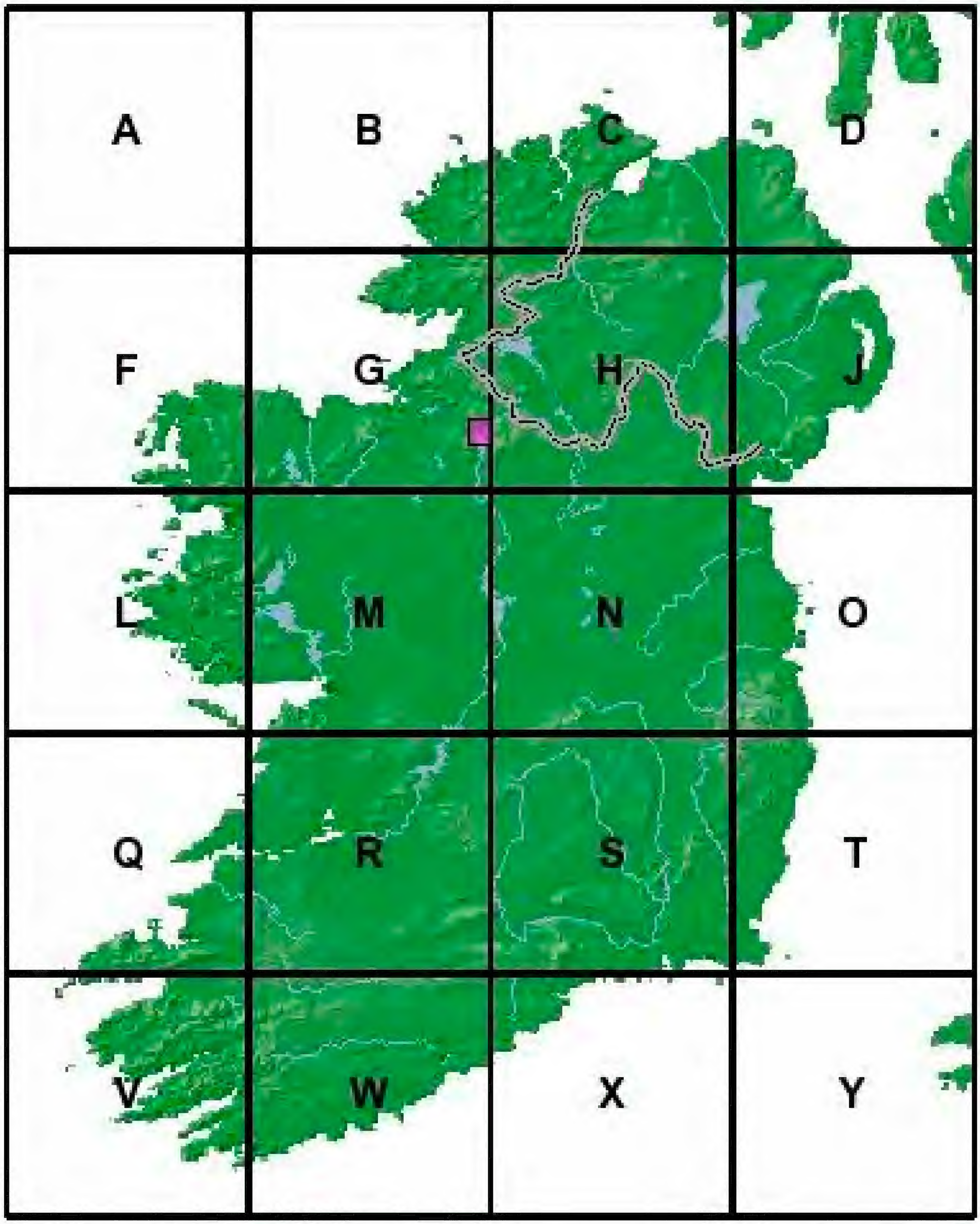

FIGURE 120. The known 10km distribution of *Hydatophylax infumatus* (McLachlan, 1865).
Habitat: rivers.
Flight period: August (Britain: June – July).

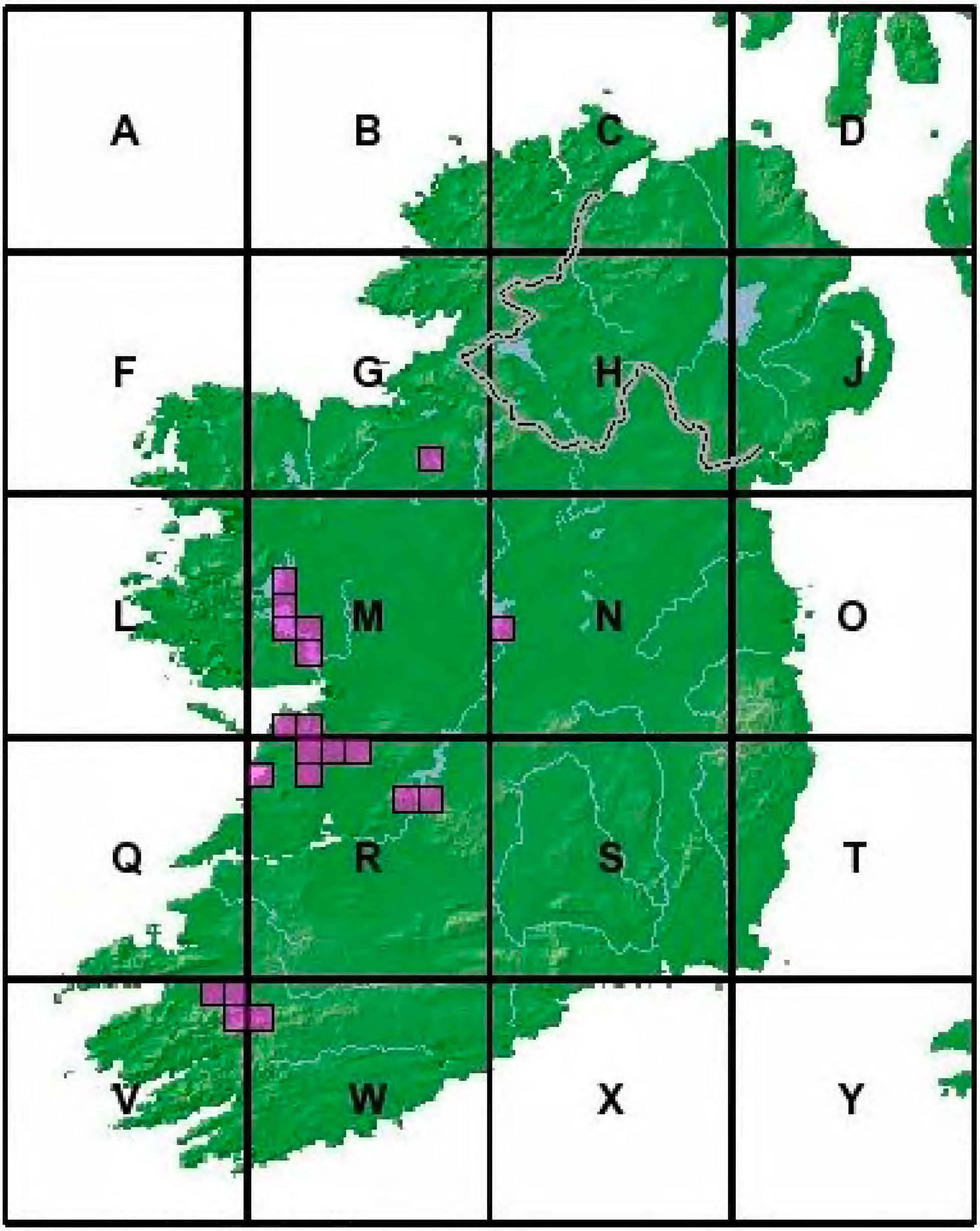

FIGURE 121. The known 10km distribution of *Mesophylax impunctatus* McLachlan, 1884.
Habitat: limestone lakes.
Flight period: May – November.

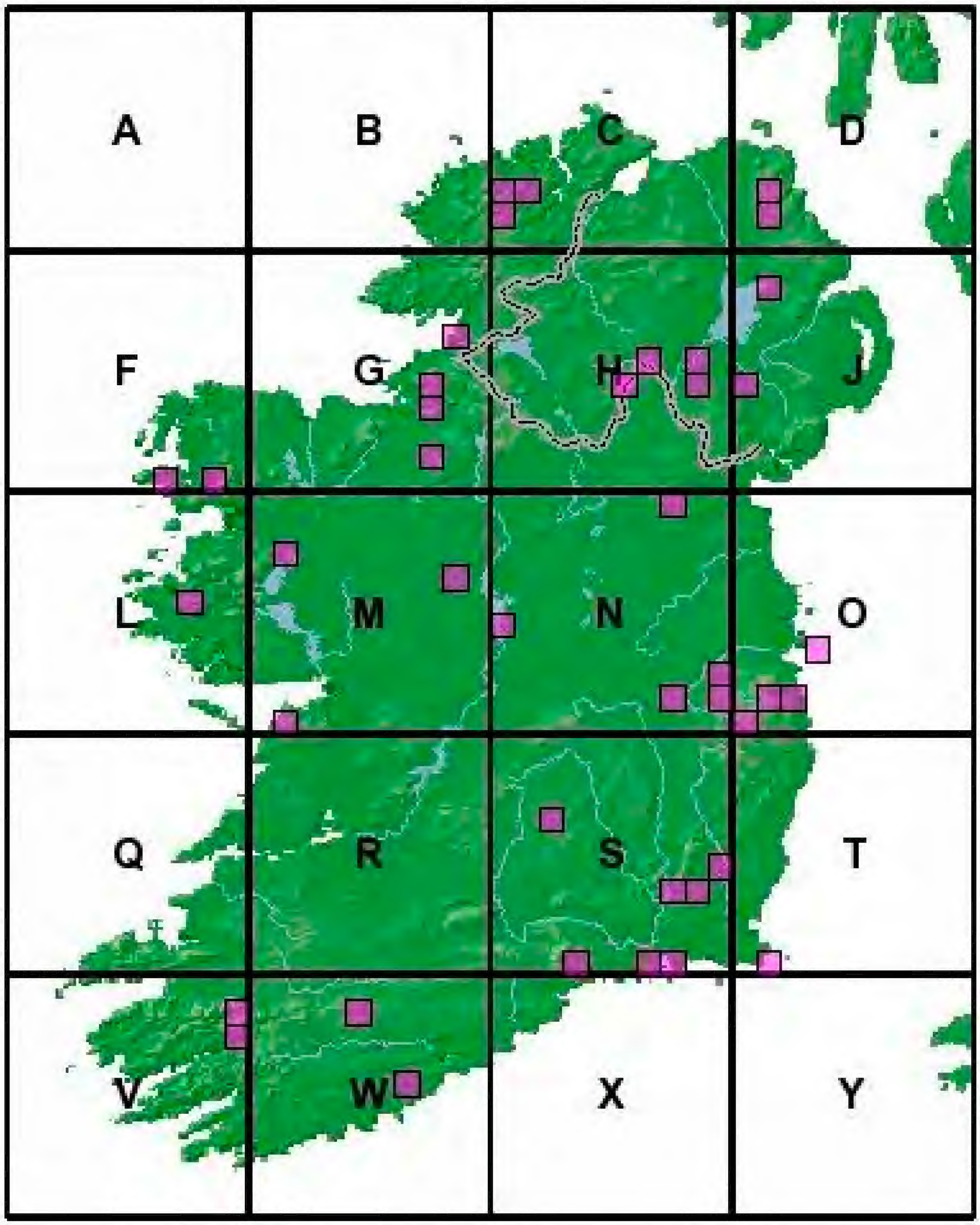

FIGURE 122. The known 10km distribution of *Micropterna lateralis* (Stephens, 1837). **Habitat:** ditches, flowing marshes and small streams which normally dry out during the summer. **Flight period:** April – August, (October).

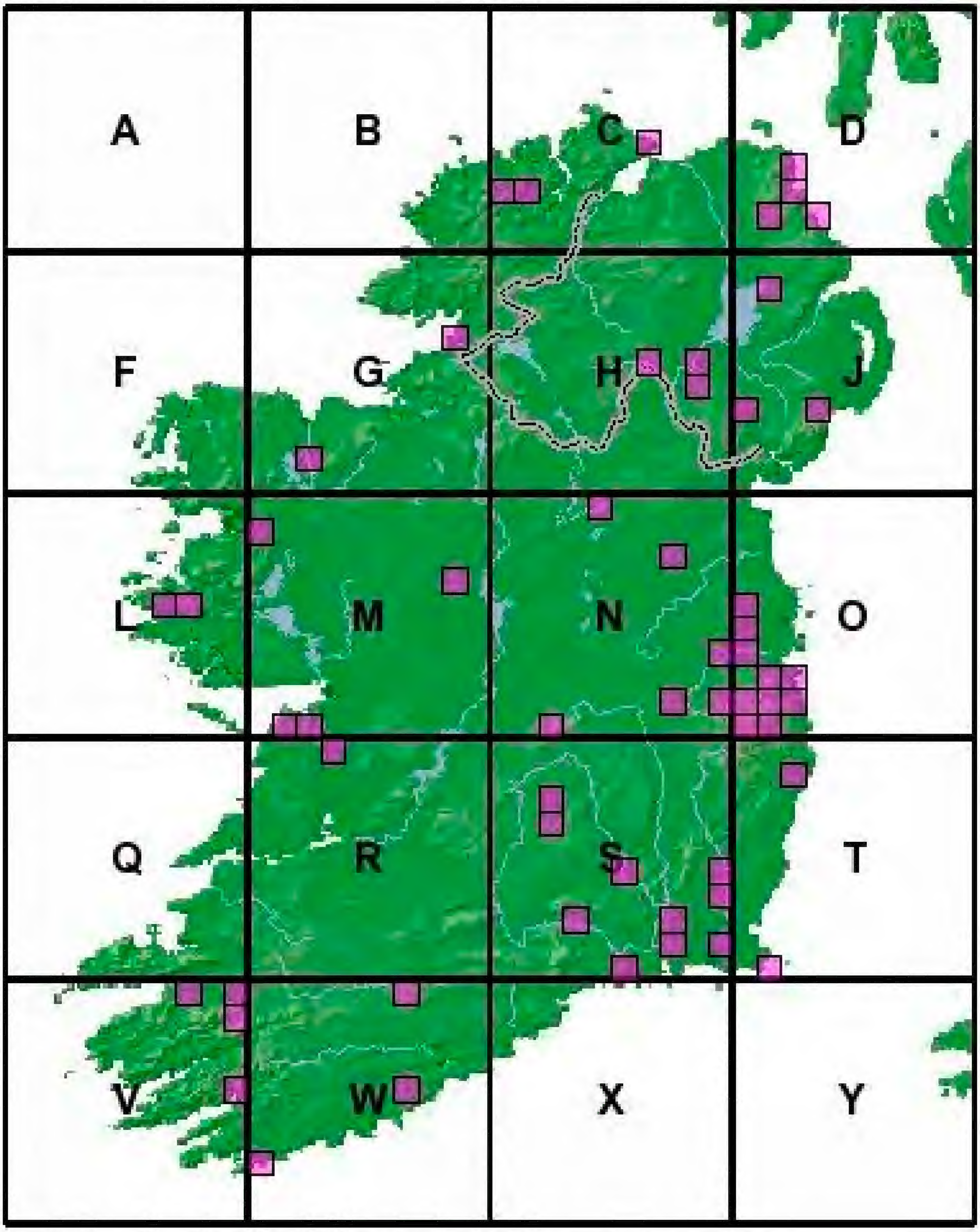

FIGURE 123. The known 10km distribution of *Micropterna sequax* McLachlan, 1875. **Habitat:** ditches, marshes, pools, spring-runnels and streams, which often diminish or dry out in the summer months. **Flight period:** May – November.

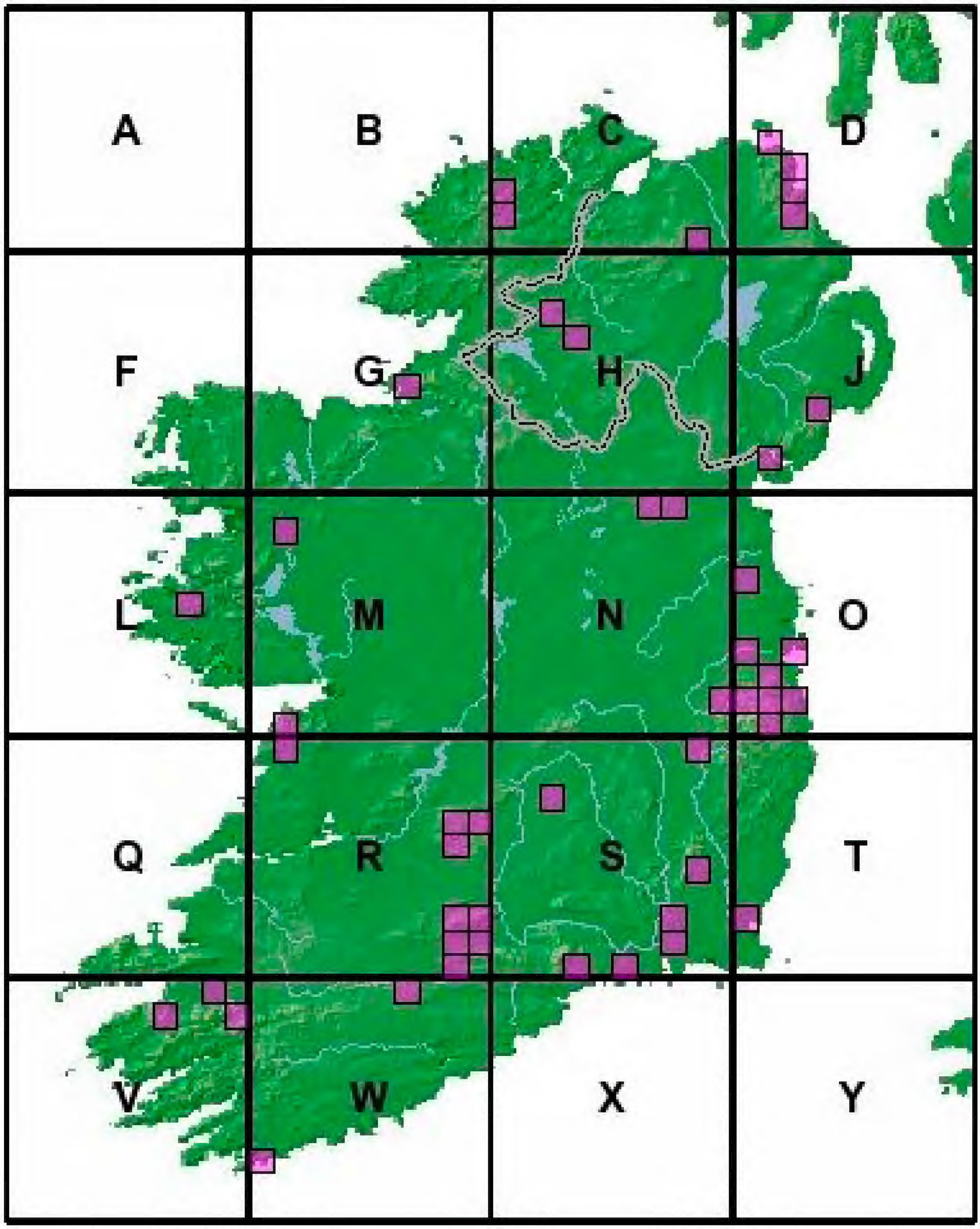

FIGURE 124. The known 10km distribution of *Potamophylax cingulatus* (Stephens, 1837).
Habitat: rivers and streams but also rocky lake shores and some upland peatland lakes.
Flight period: (April), June – October.

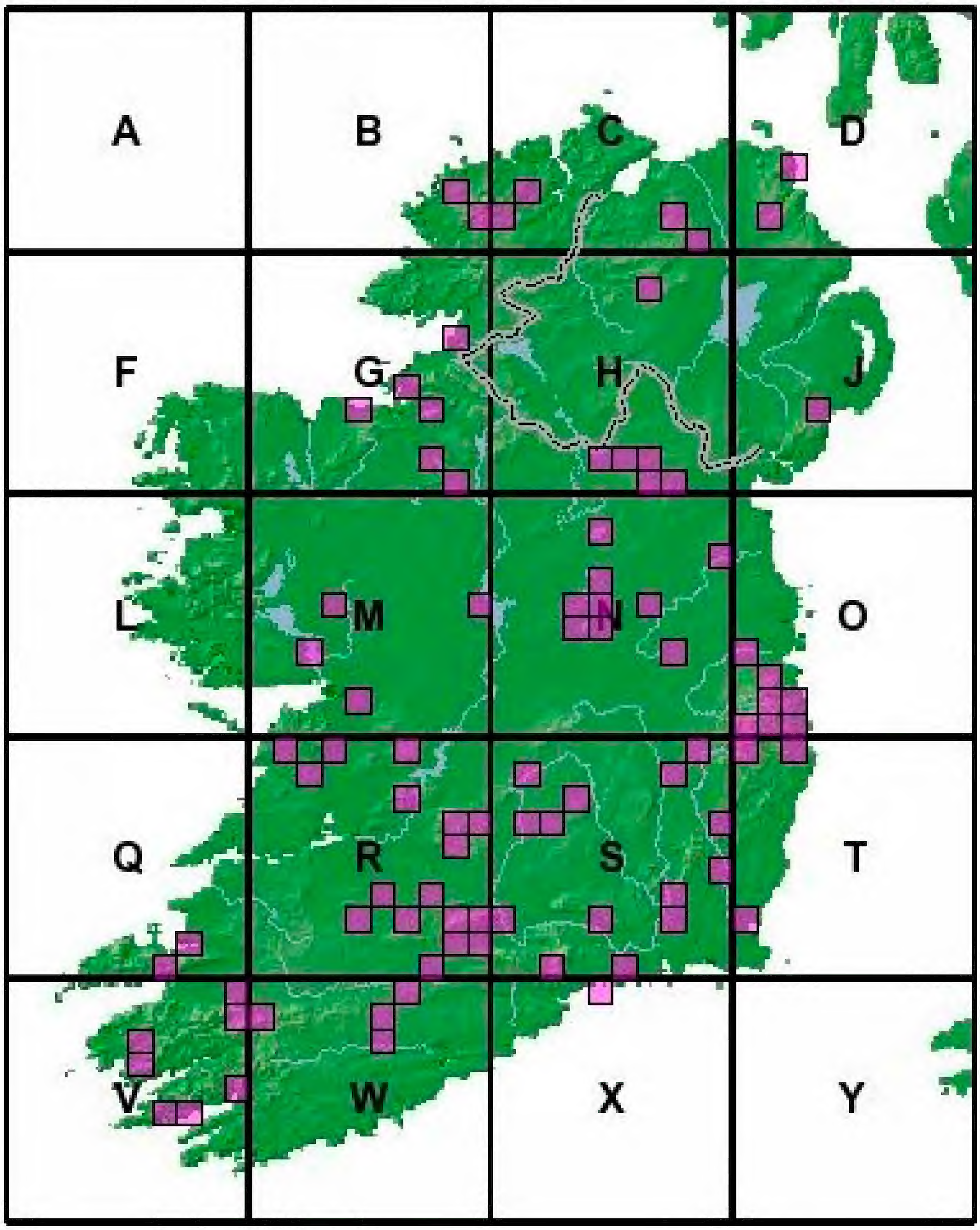

FIGURE 125. The known 10km distribution of *Potamophylax latipennis* (Curtis, 1834).
Habitat: lakes, rivers and streams.
Flight period: April – October.

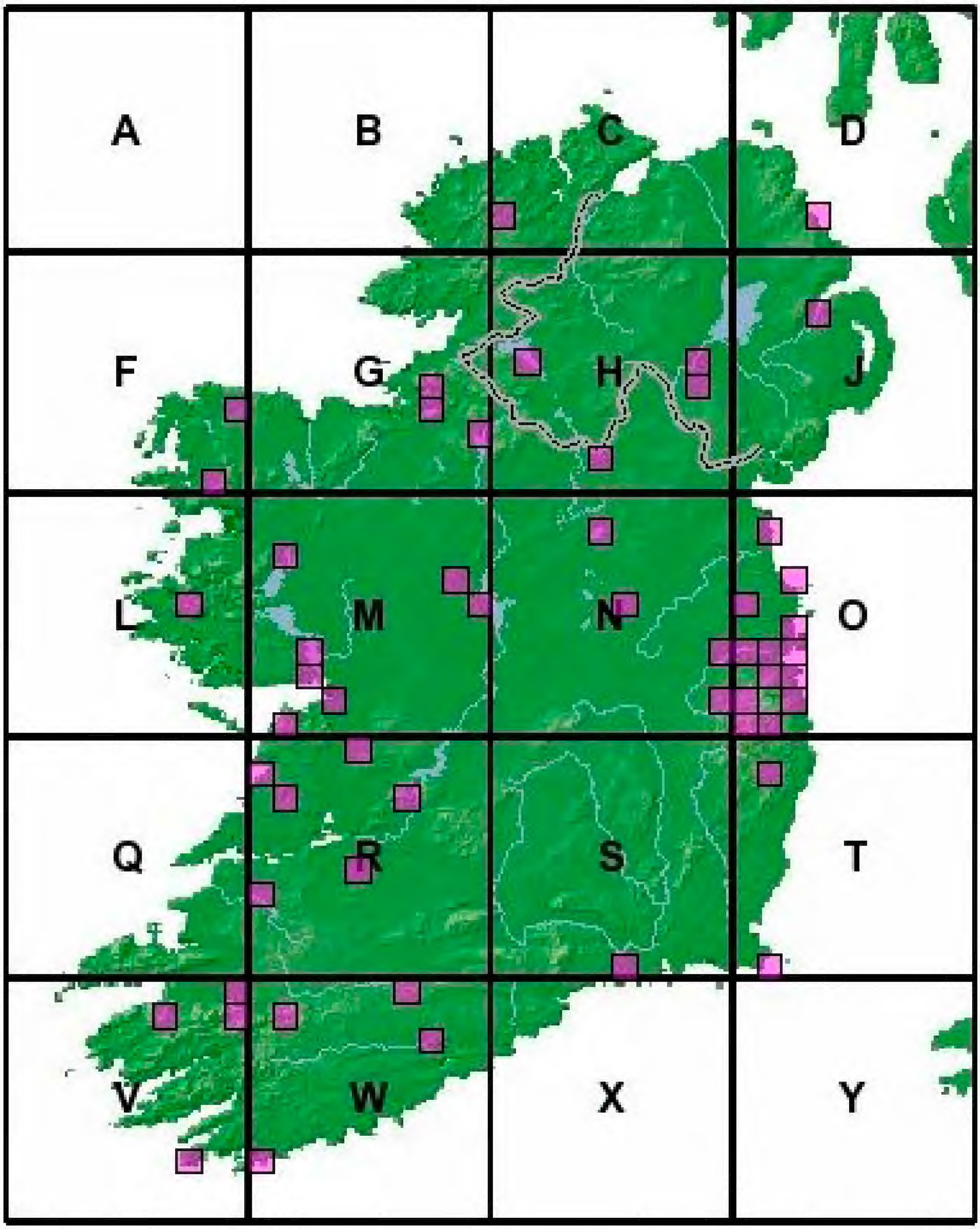

FIGURE 126. The known 10km distribution of *Stenophylax permistus* McLachlan, 1895. **Habitat:** drainage ditches, pools, and the edges of flowing marshes.which usually dry up during the summer. **Flight period:** March – October.

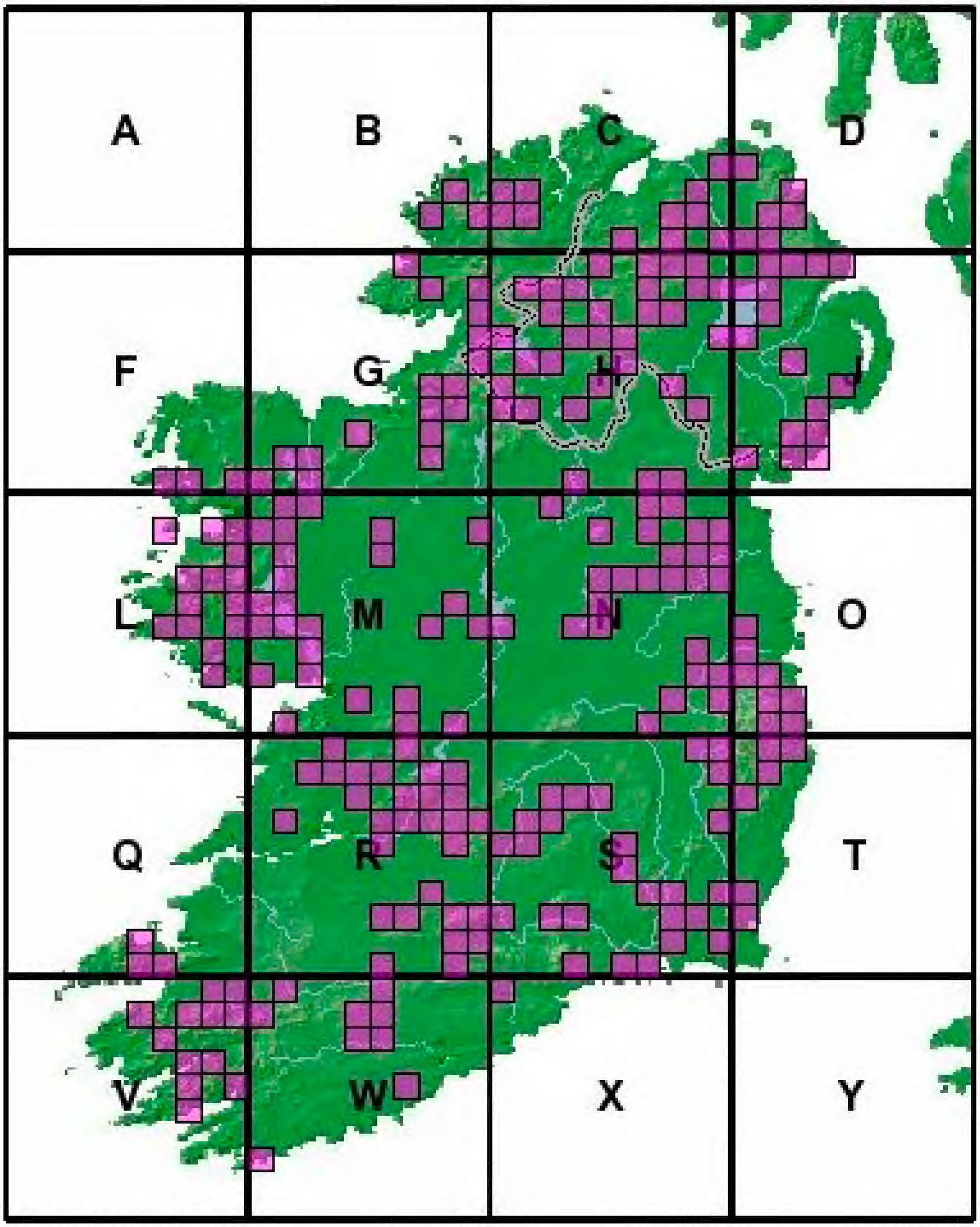

FIGURE 127. The known 10km distribution of *Sericostoma personatum* (Spence, 1826).
Habitat: lakes, rivers and streams.
Flight period: April – September.

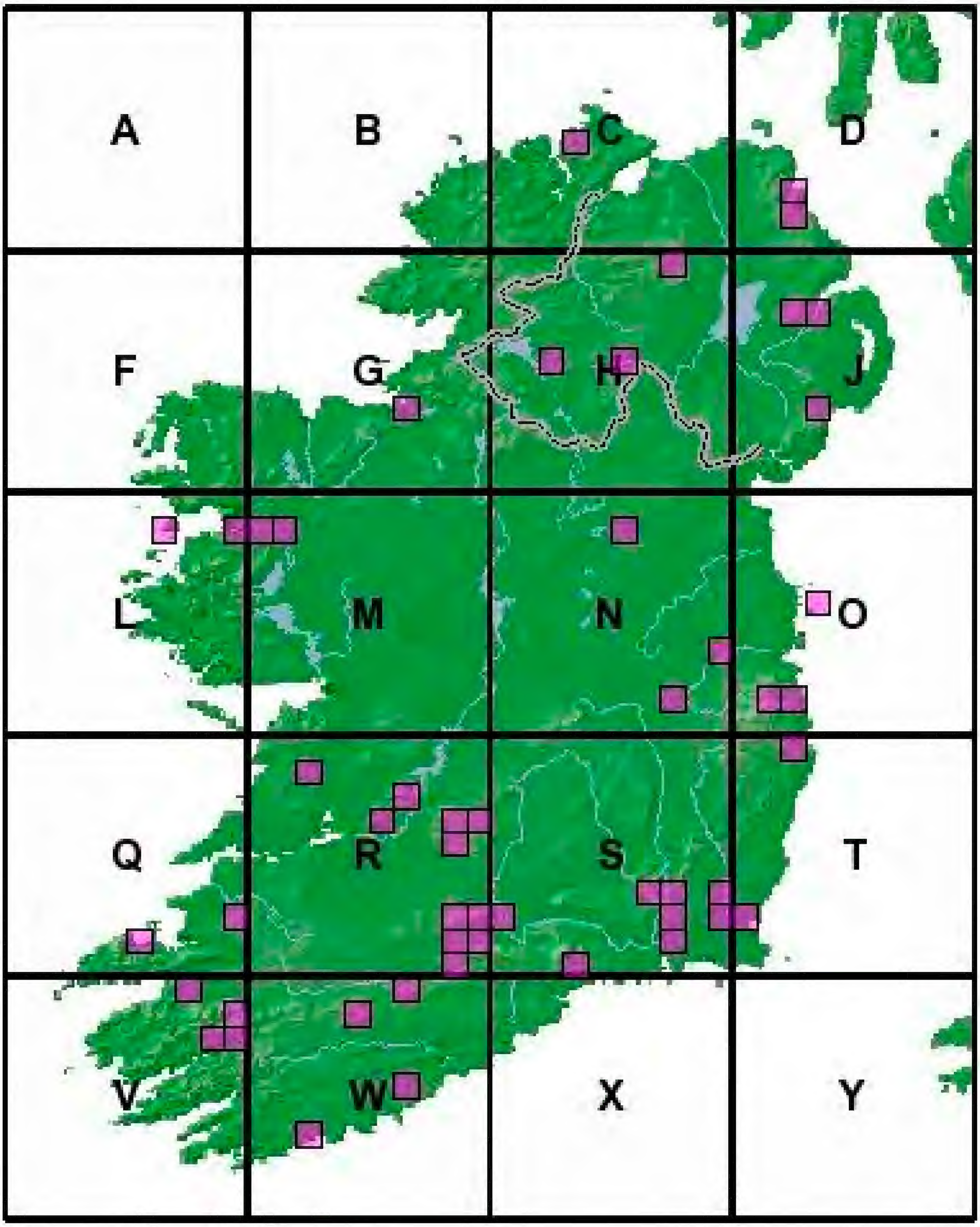

FIGURE 128. The known 10km distribution of *Beraea maurus* (Curtis, 1834).
Habitat: oozes, spring runnels, tufa springs, small streams, trickles and marshes, which are often semi-terrestrial and full of dead leaves or mosses. **Flight period:** June – August.

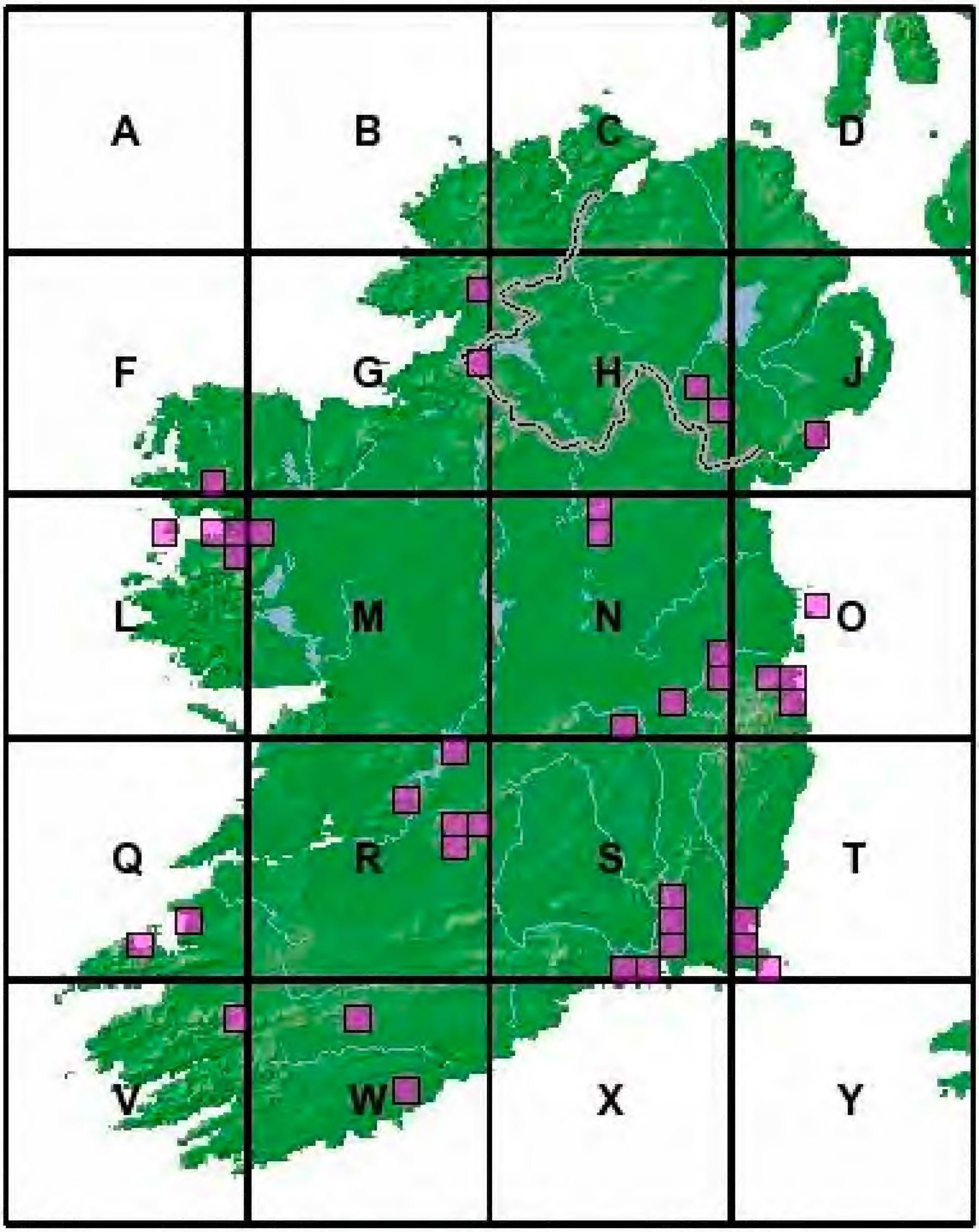

FIGURE 129. The known 10km distribution of *Beraea pullata* (Curtis, 1834).
Habitat: seepage areas in marshes, fens and beside rivers or streams where they live amongst dense fibrous root masses. **Flight period:** May – July, (September).

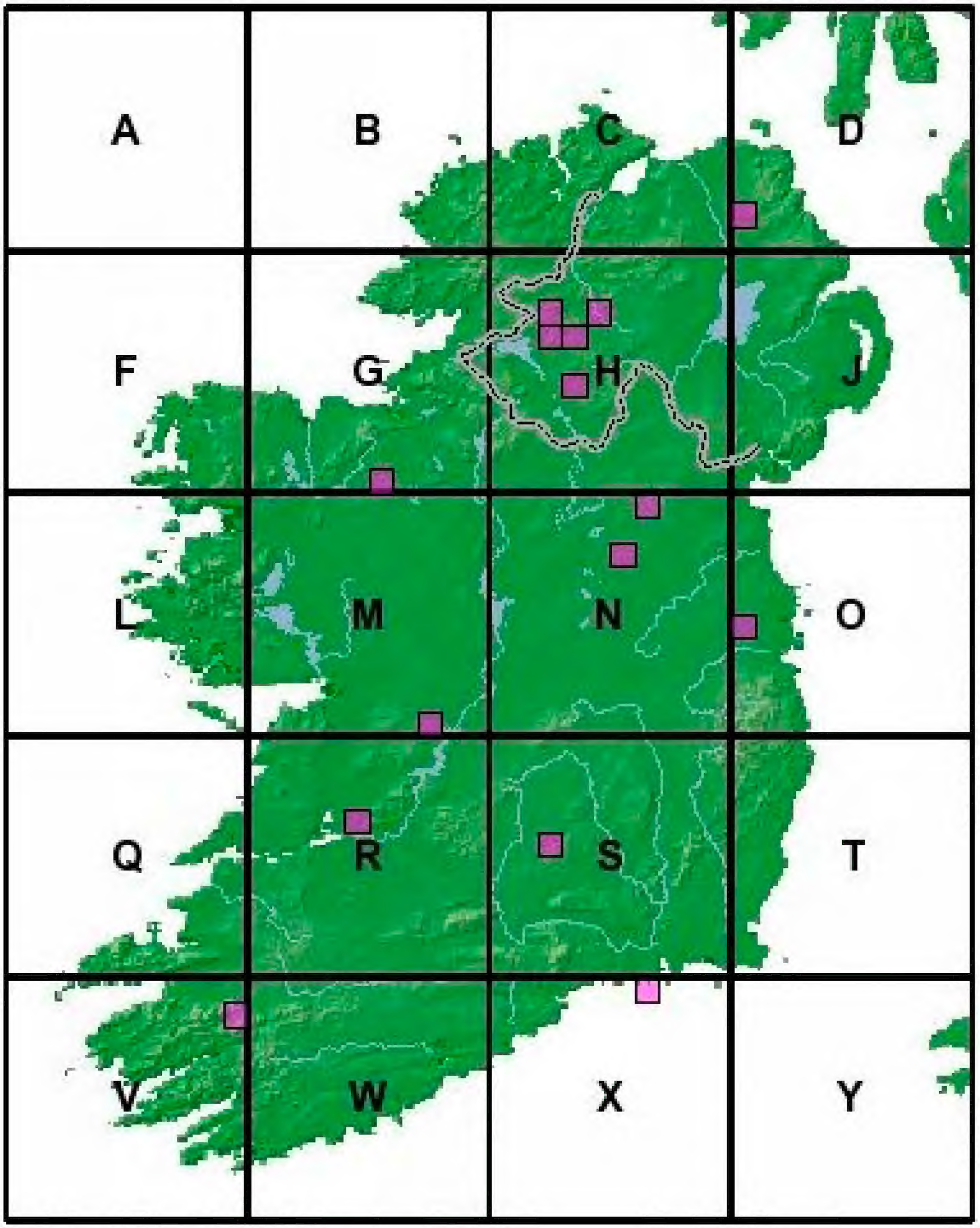

FIGURE 130. The known 10km distribution of *Beraeodes minutus* (Linnaeus, 1761). **Habitat:** lakes, rivers and drainage ditches. **Flight period:** the only Irish adult was taken in May (Britain: (April) May – July (August) (Wallace, pers. comm.)).

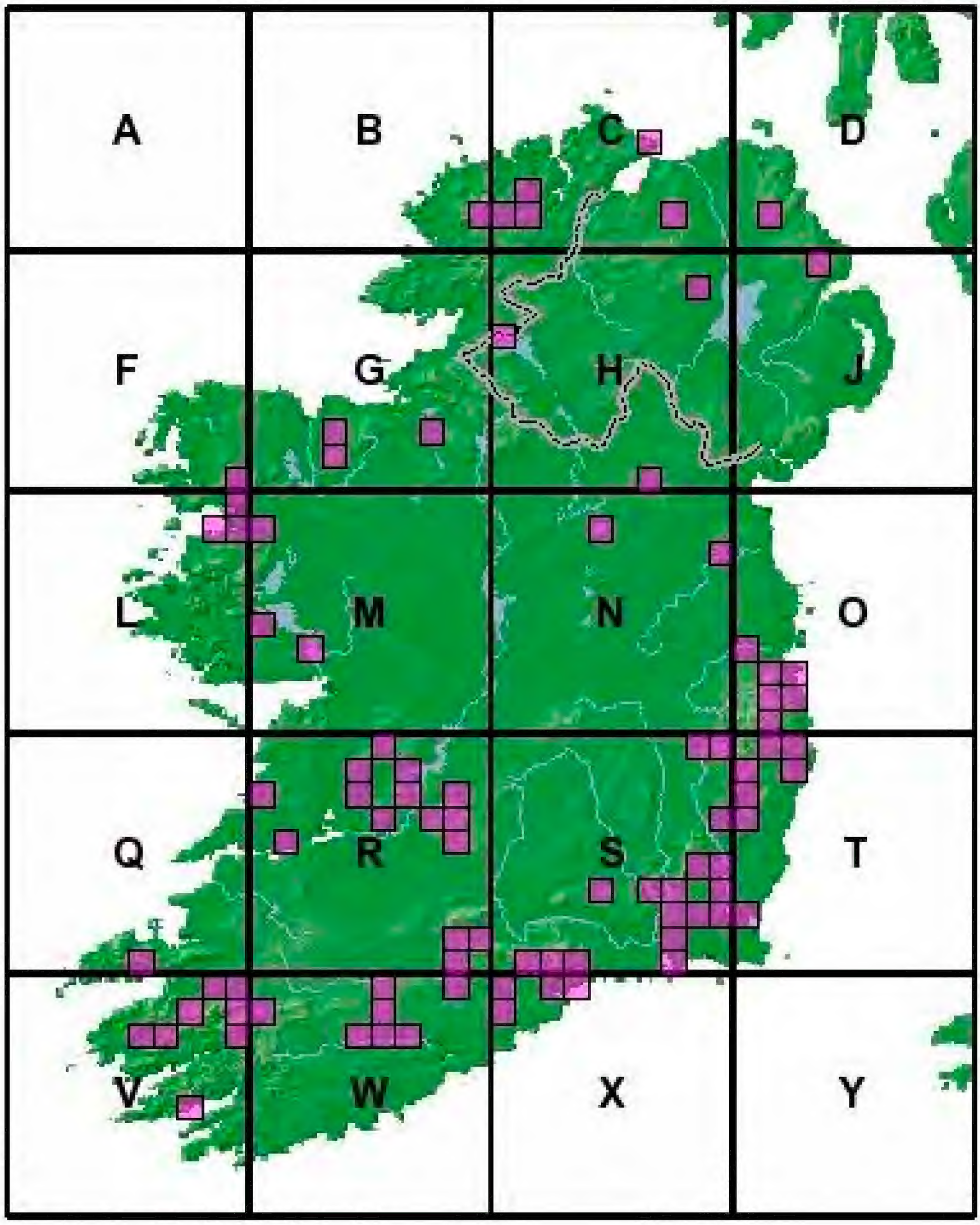

FIGURE 131. The known 10km distribution of *Odontocerum albicorne* (Scopoli, 1763).
Habitat: rivers and streams.
Flight period: May – September.

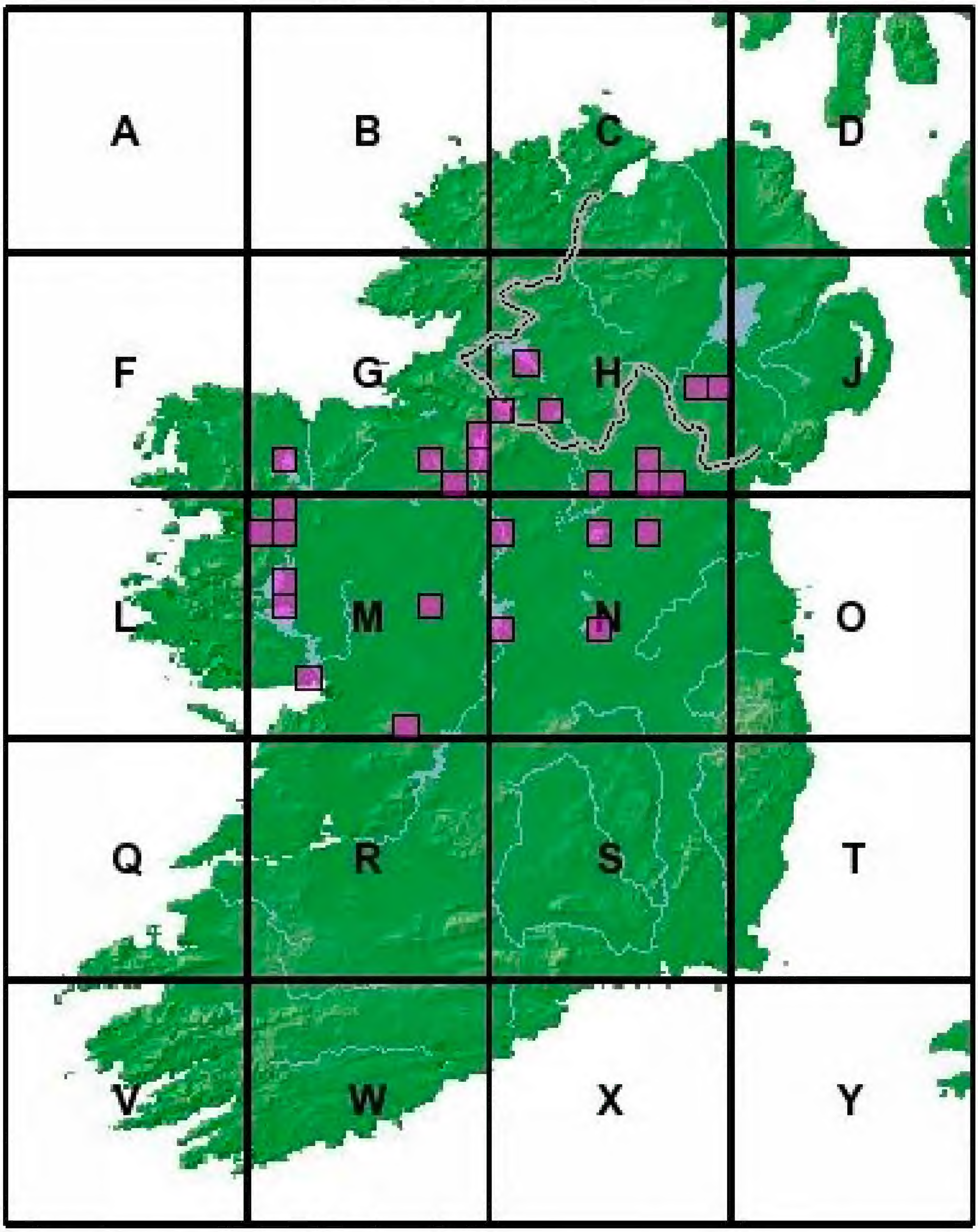

FIGURE 132. The known 10km distribution of *Molanna albicans* (Zetterstedt, 1840).
Habitat: lakes and large slow flowing rivers.
Flight period: May – September.

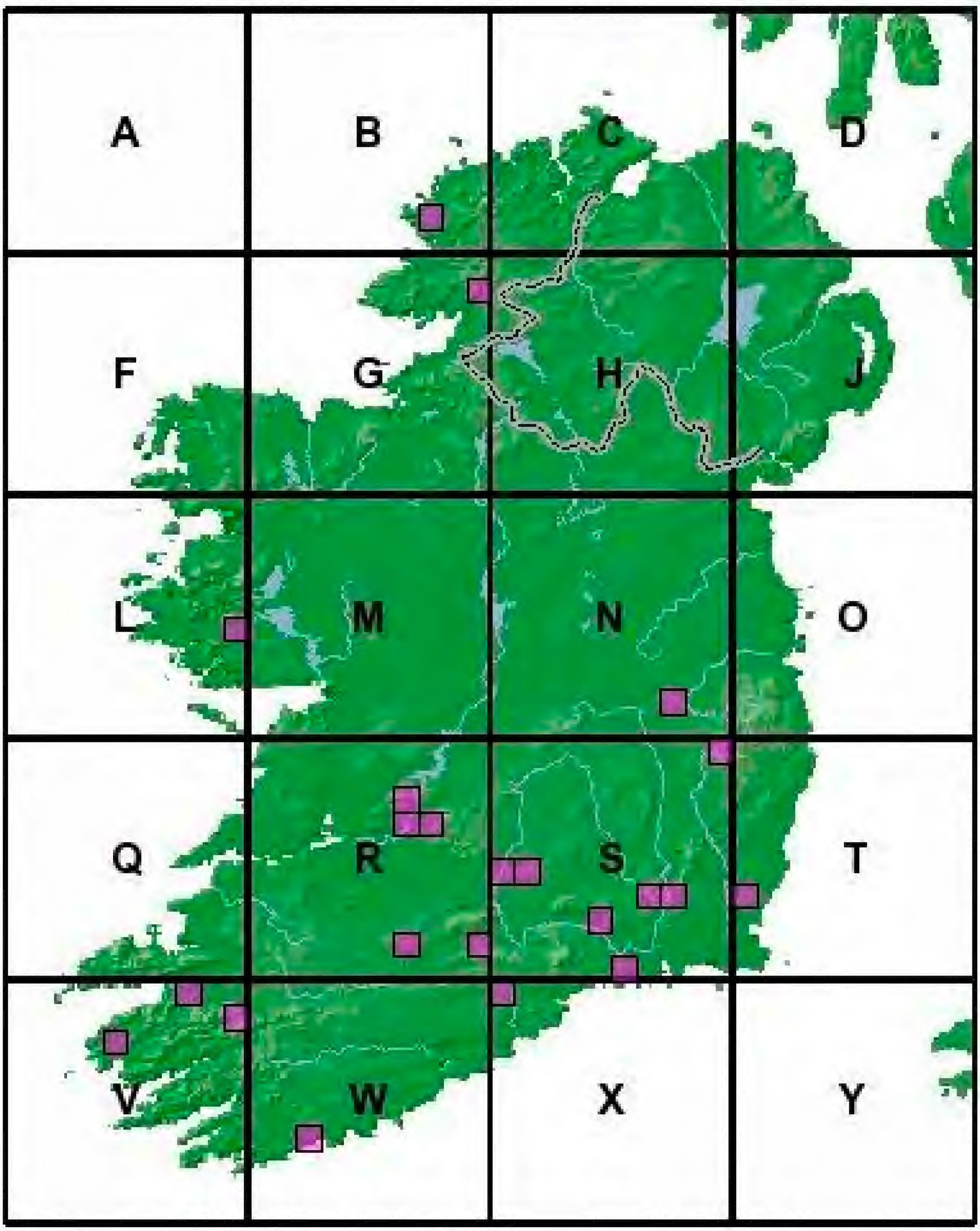

FIGURE 133. The known 10km distribution of *Adicella reducta* (McLachlan, 1865).
Habitat: fens, rivers and streams with some unconfirmed records from lakes and ponds.
Flight period: May – September.

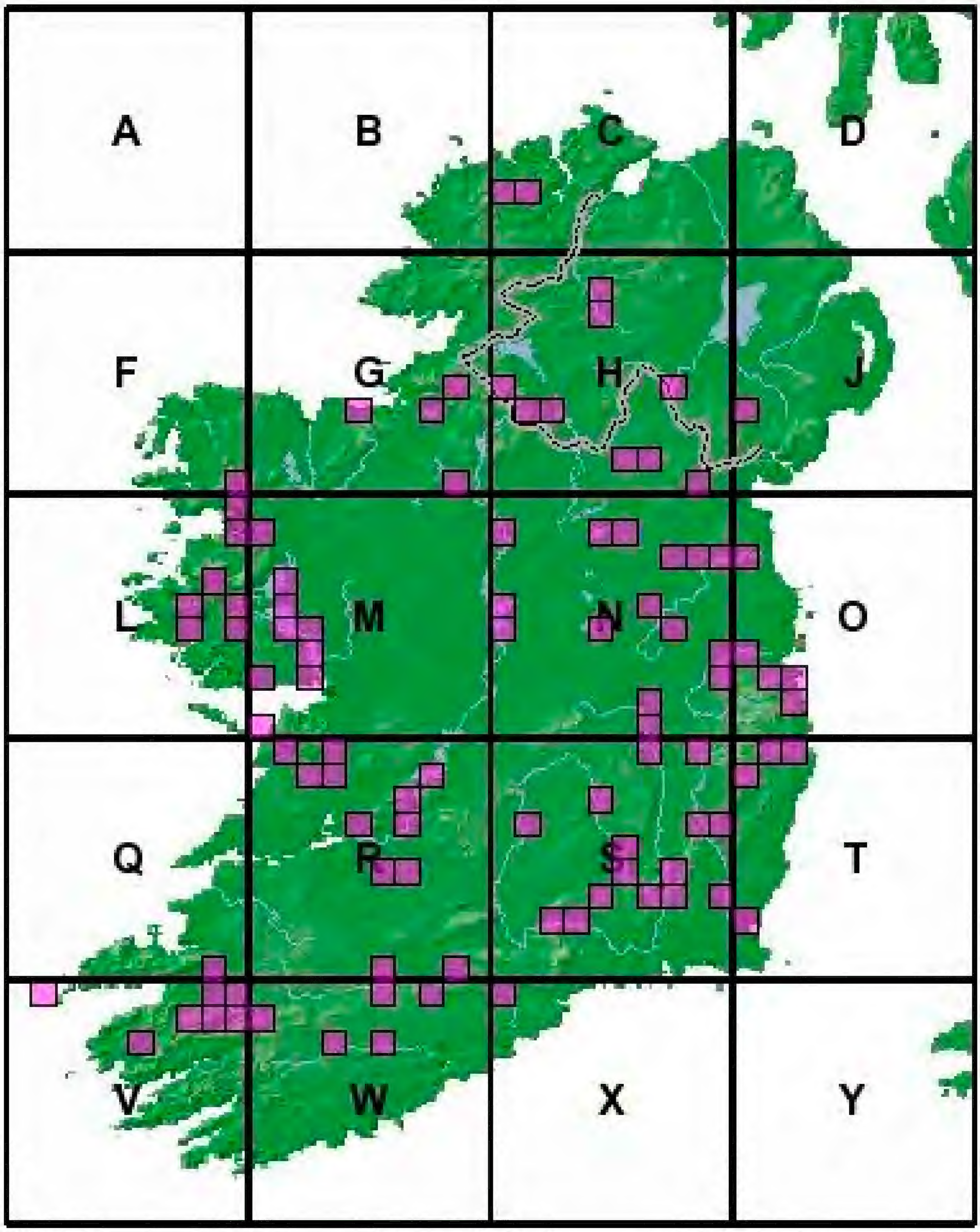

FIGURE 134. The known 10km distribution of *Athripsodes albifrons* (Linnaeus, 1758).
Habitat: lakes and rivers.
Flight period: June – September.

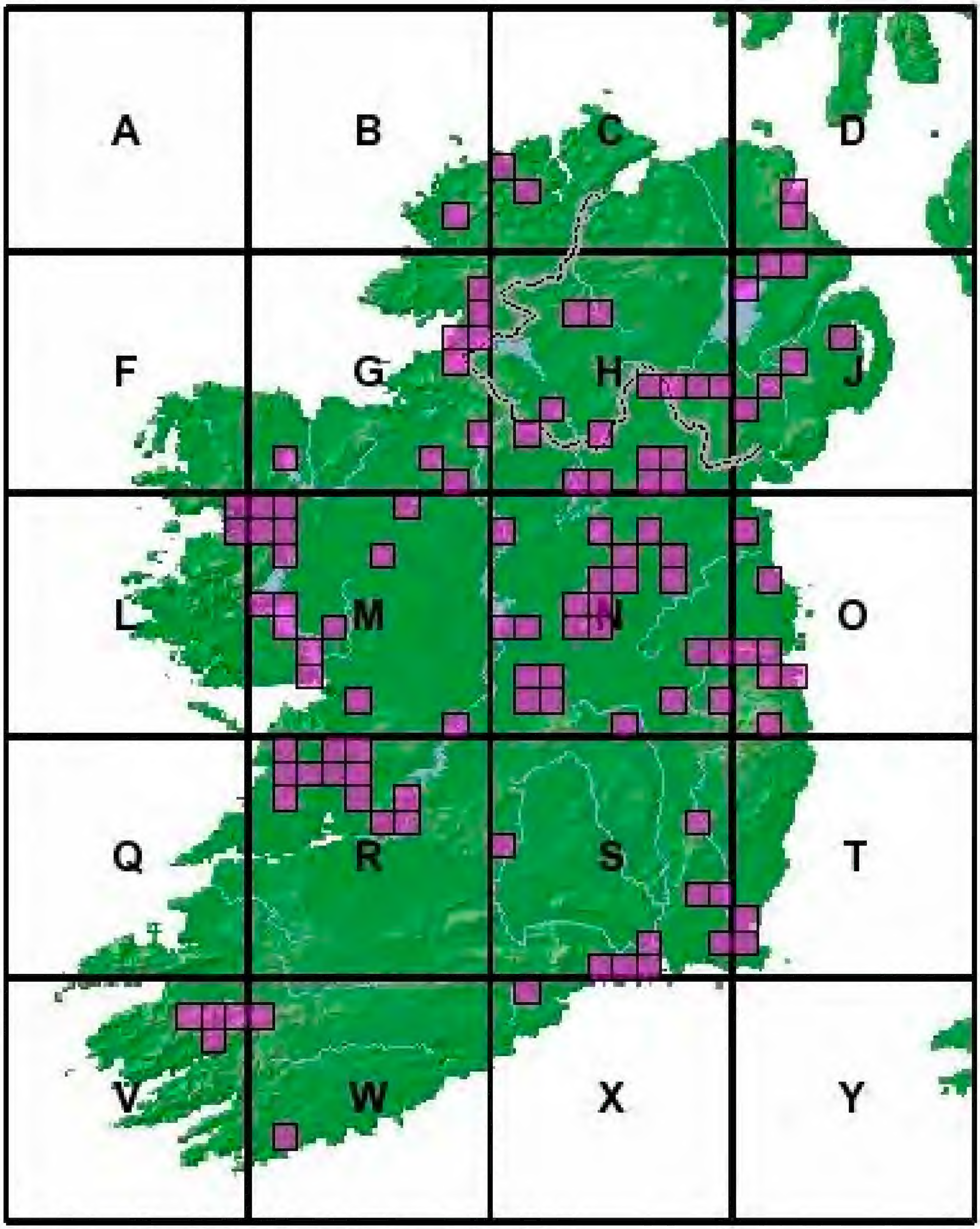

FIGURE 135. The known 10km distribution of *Athripsodes aterrimus* (Stephens, 1836).
Habitat: canals, lakes, ponds, reservoirs, rivers and streams.
Flight period: May – September, (November).

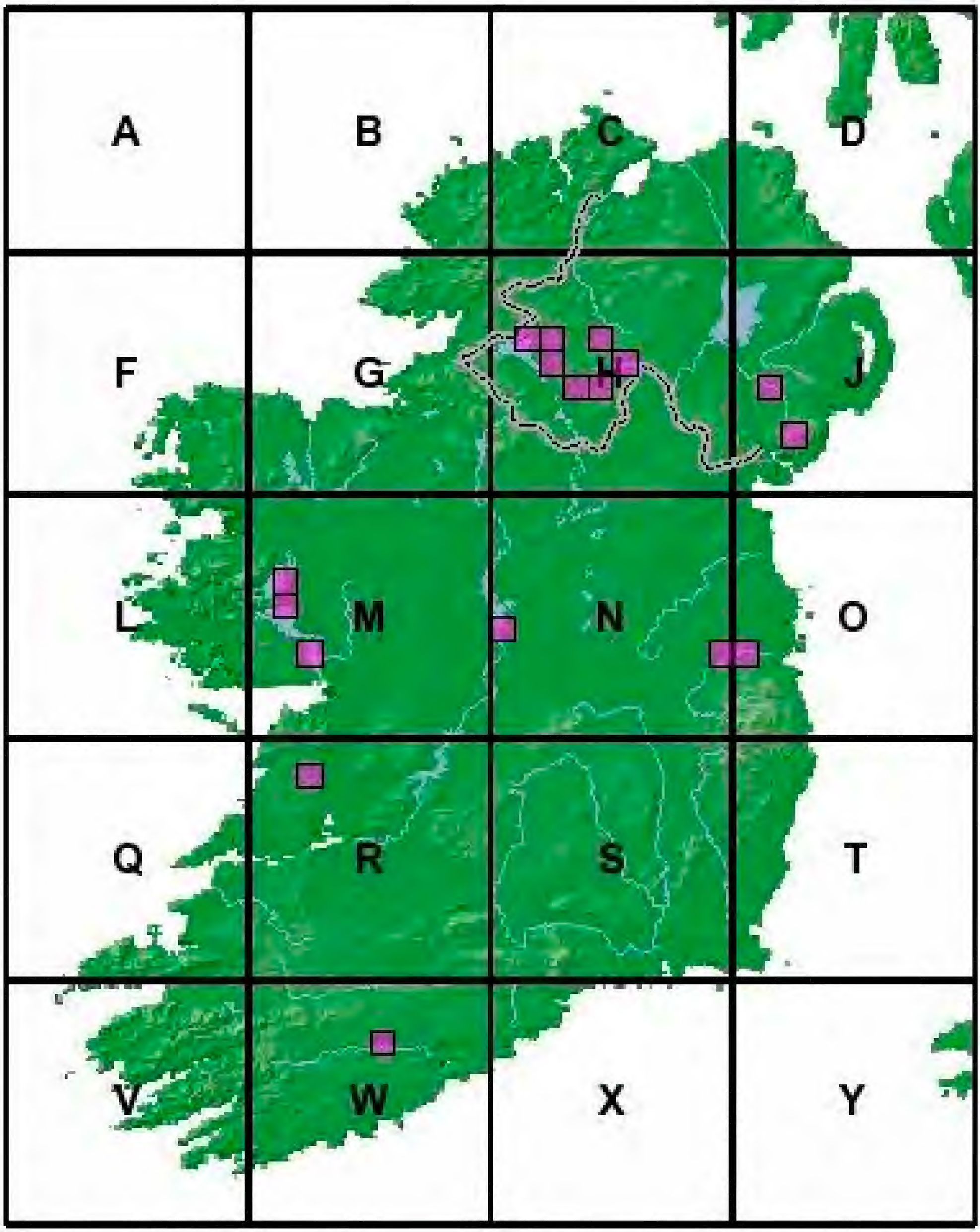

FIGURE 136. The known 10km distribution of *Athripsodes bilineatus* (Linnaeus, 1758).
Habitat: lakes and rivers.
Flight period: July – August.

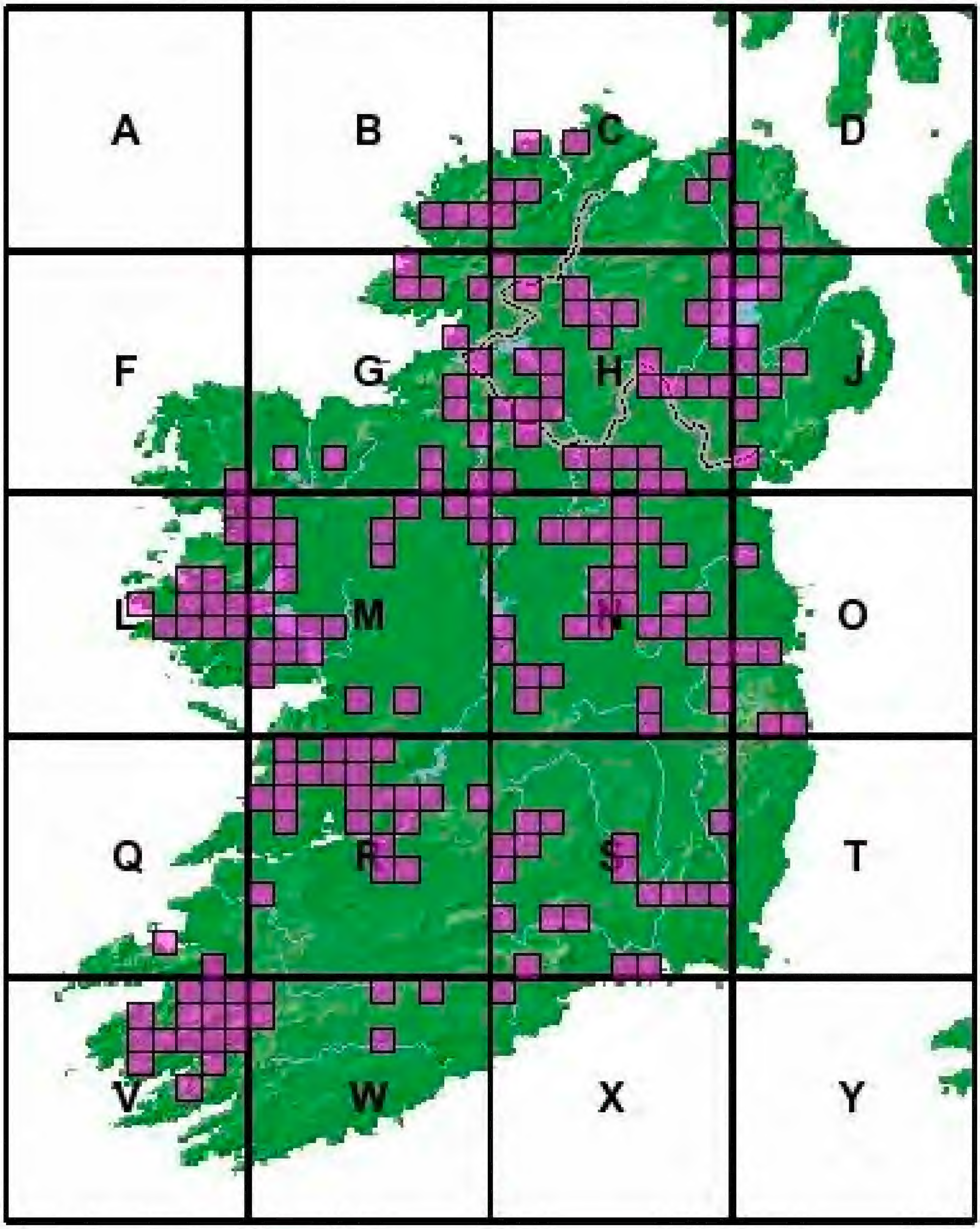

FIGURE 137. The known 10km distribution of *Athripsodes cinereus* (Curtis, 1834).
Habitat: canals, lakes, reservoirs, rivers and streams.
Flight period: June – November.

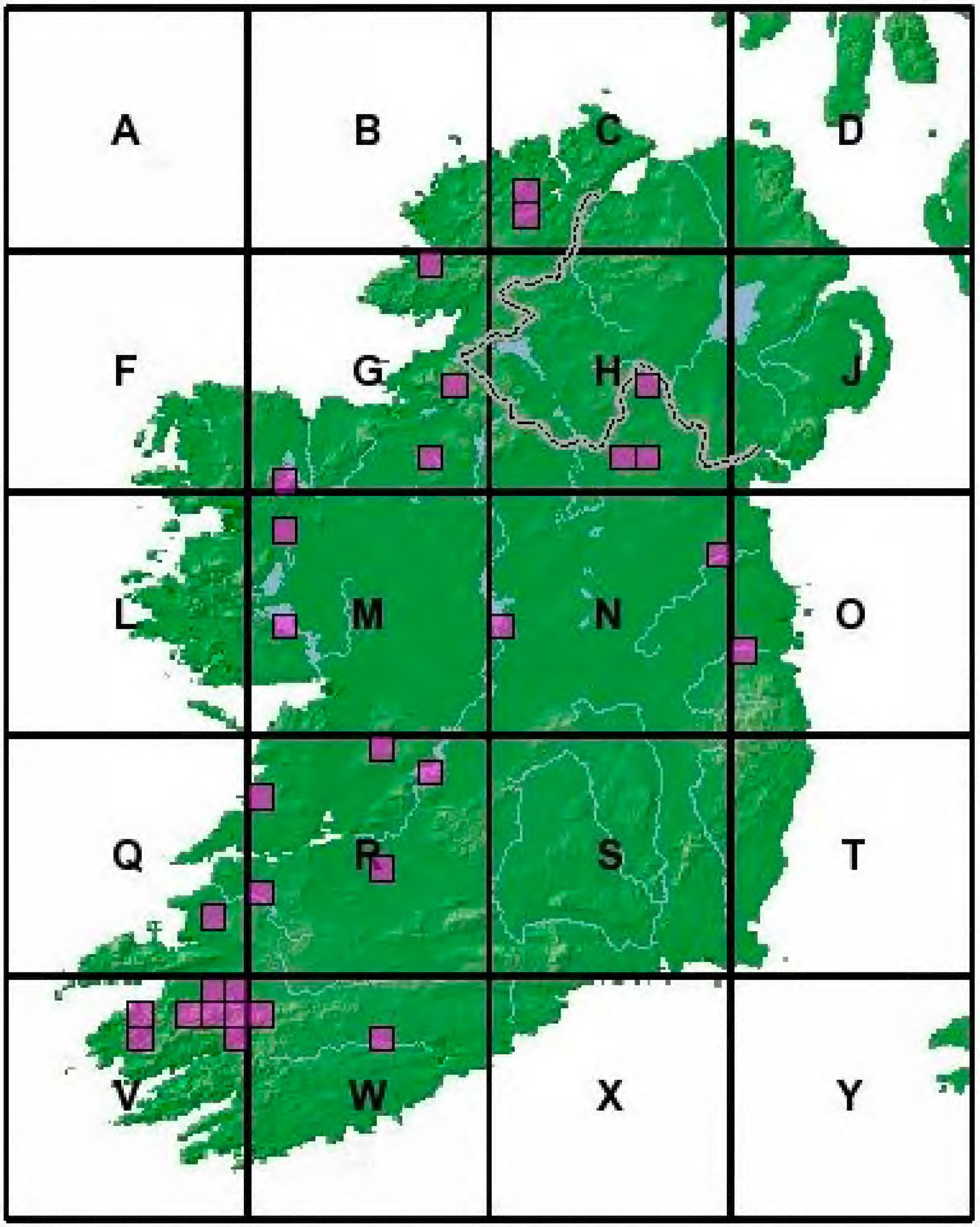

FIGURE 138. The known 10km distribution of *Athripsodes commutatus* (Rostock, 1874).
Habitat: rivers.
Flight period: June – September.

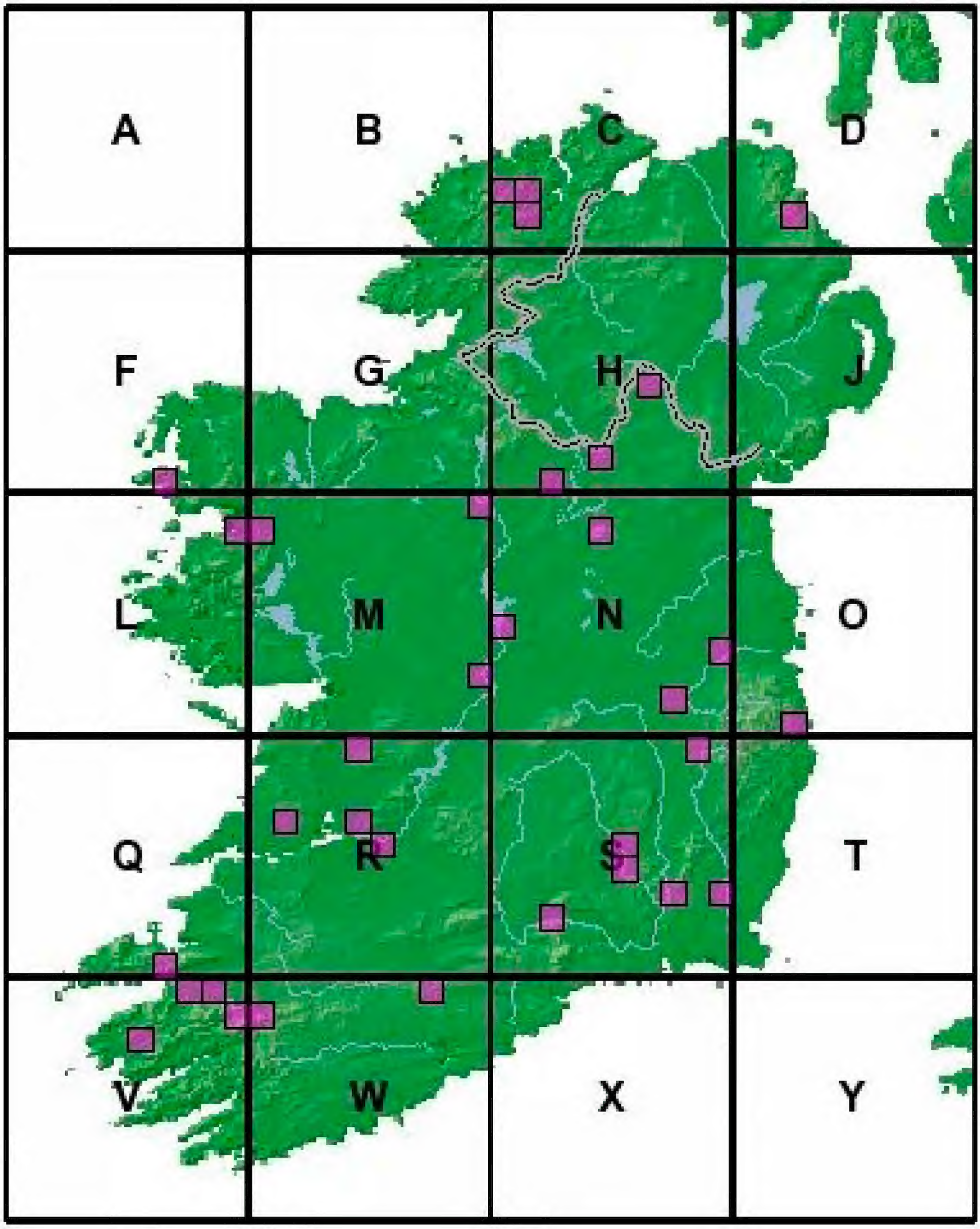

FIGURE 139. The known 10km distribution of *Ceraclea albimacula* (Rambur, 1842).
Habitat: rivers and large streams.
Flight period: June – August, (October).

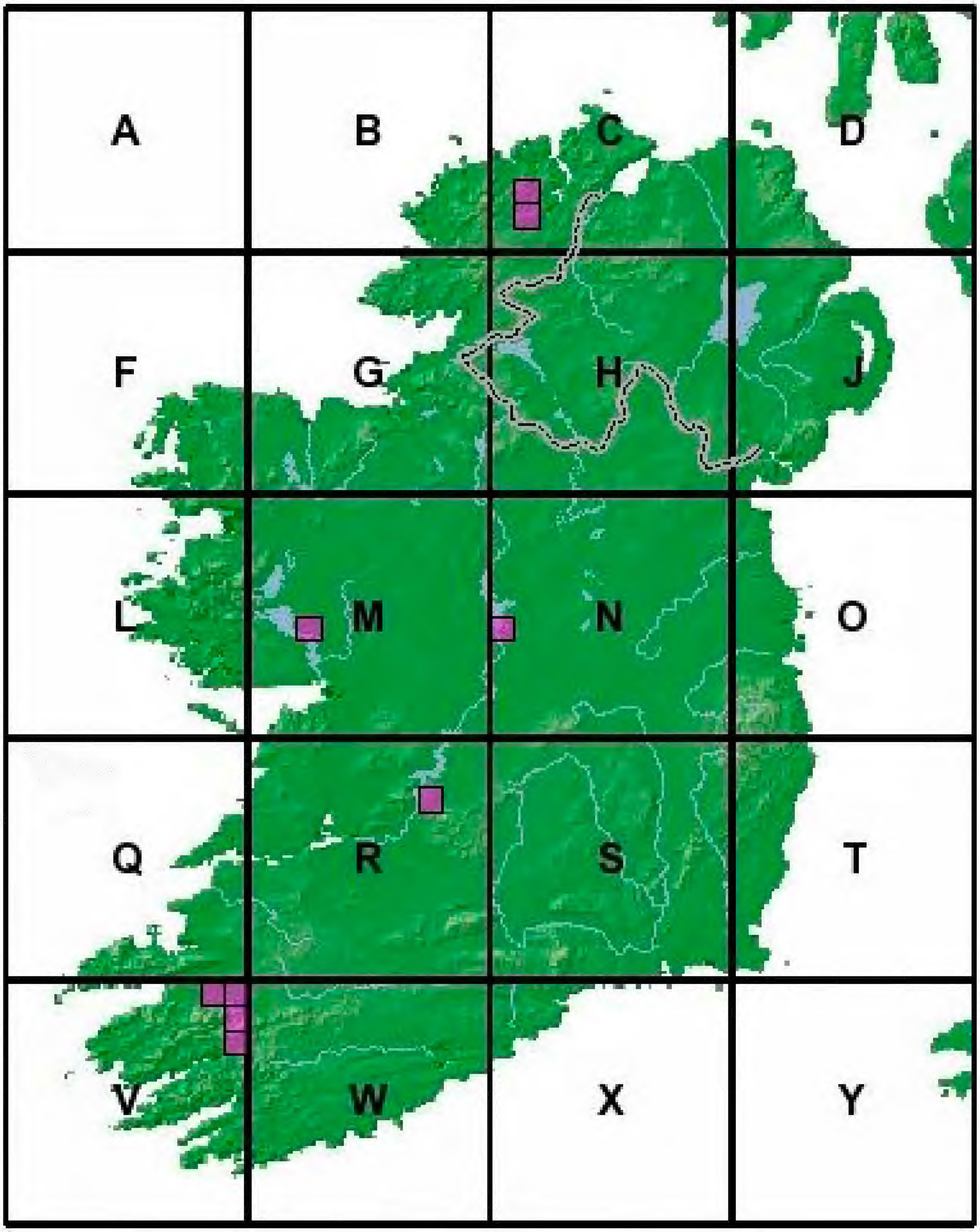

FIGURE 140. The known 10km distribution of *Ceraclea annulicornis* (Stephens, 1836).
Habitat: lakes and rivers.
Flight period: May – July.

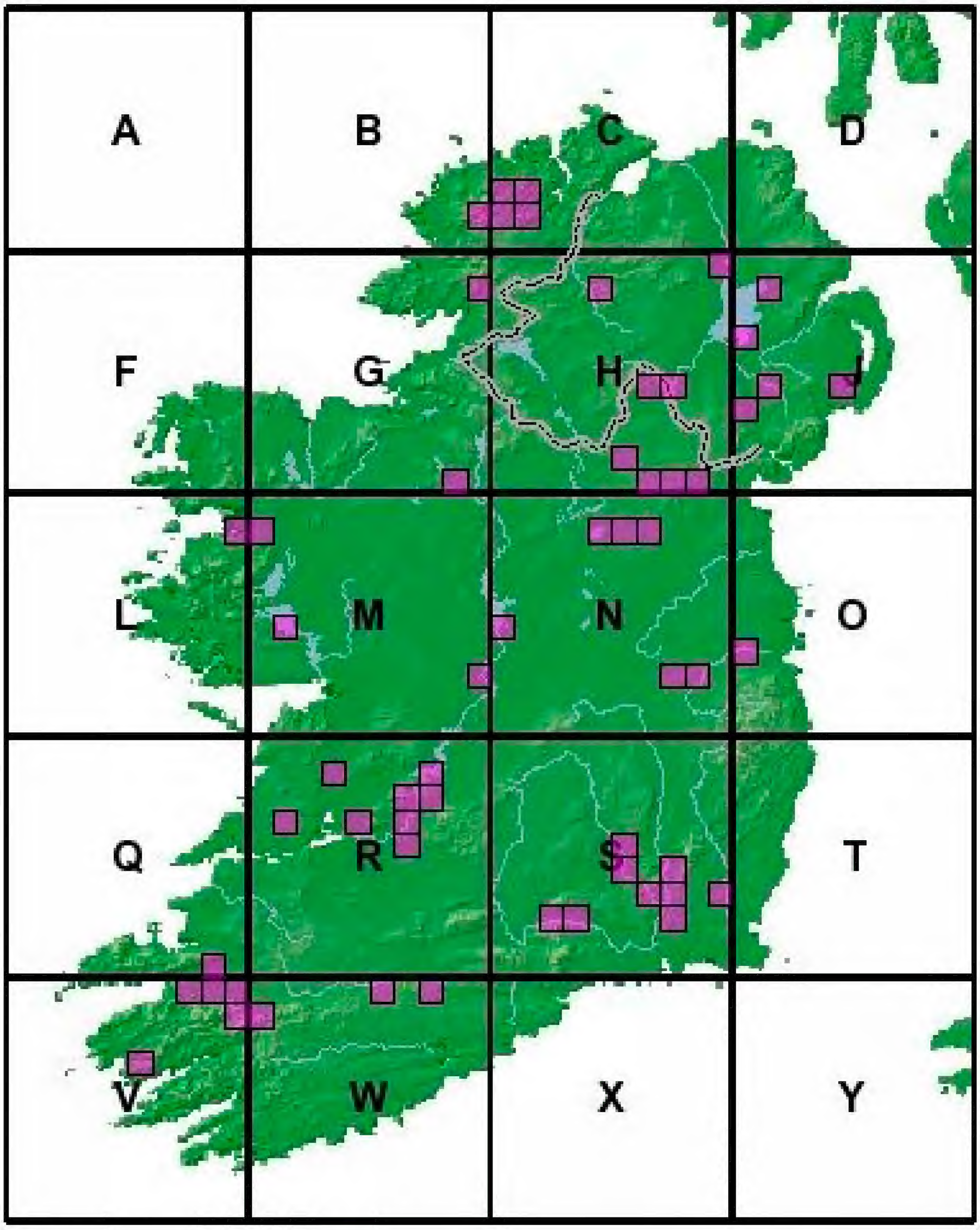

FIGURE 141. The known 10km distribution of *Ceraclea dissimilis* (Stephens, 1836).
Habitat: lakes, rivers and streams.
Flight period: May – September.

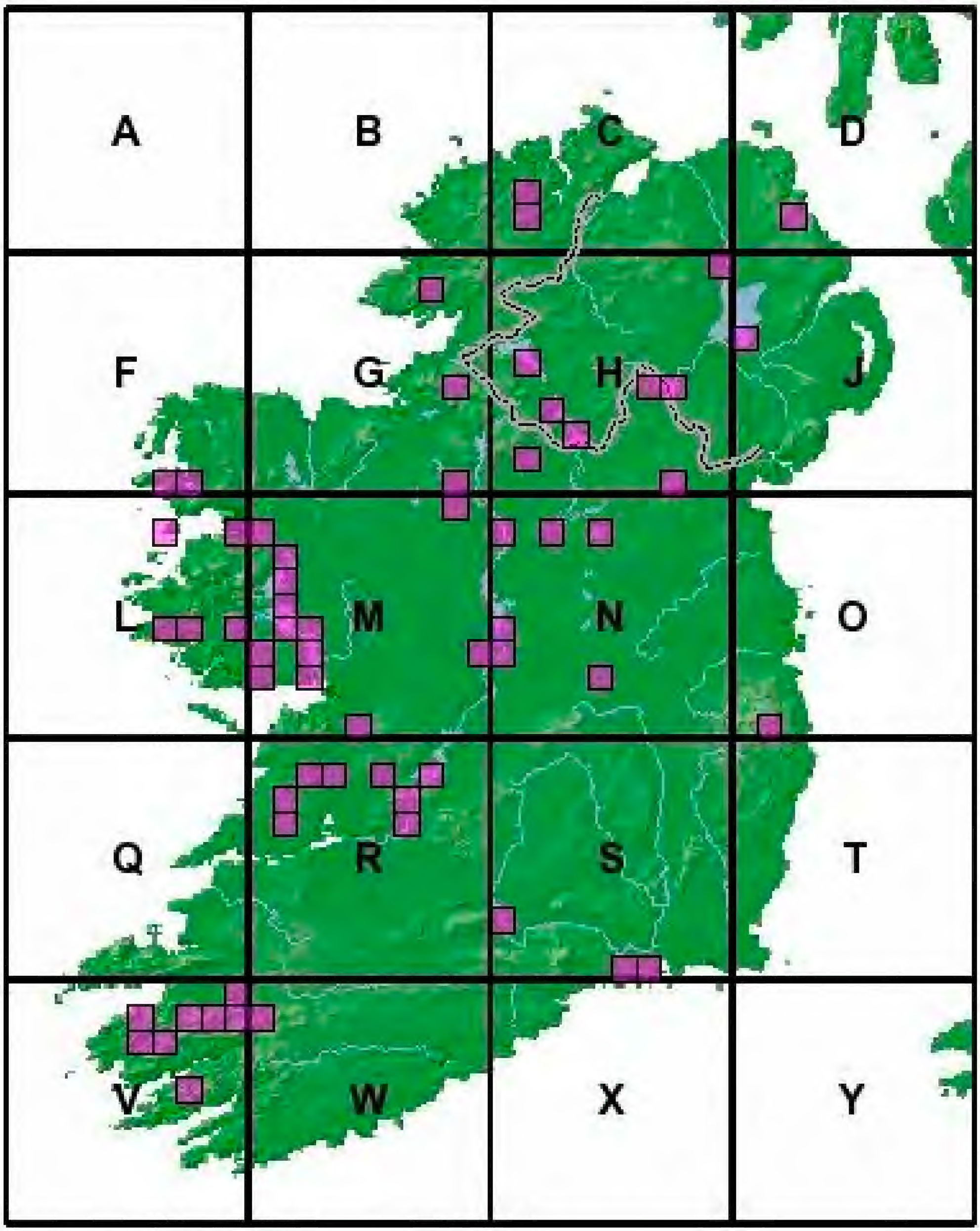

FIGURE 142. The known 10km distribution of *Ceraclea fulva* (Rambur, 1842).
Habitat: lakes and rivers.
Flight period: June – September.

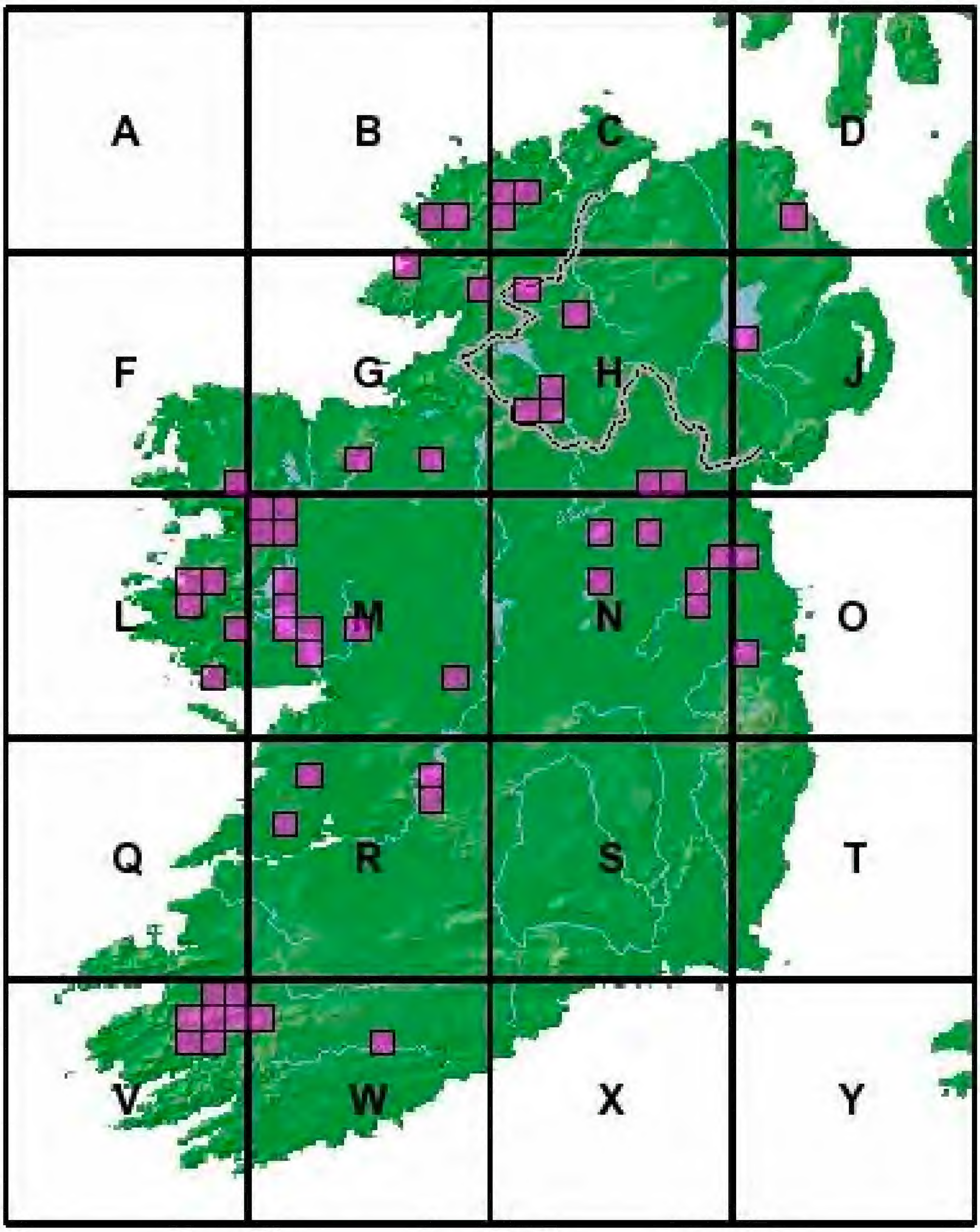

FIGURE 143. The known 10km distribution of *Ceraclea nigronervosa* (Retzius, 1783).
Habitat: lakes, reservoirs and rivers.
Flight period: May – August.

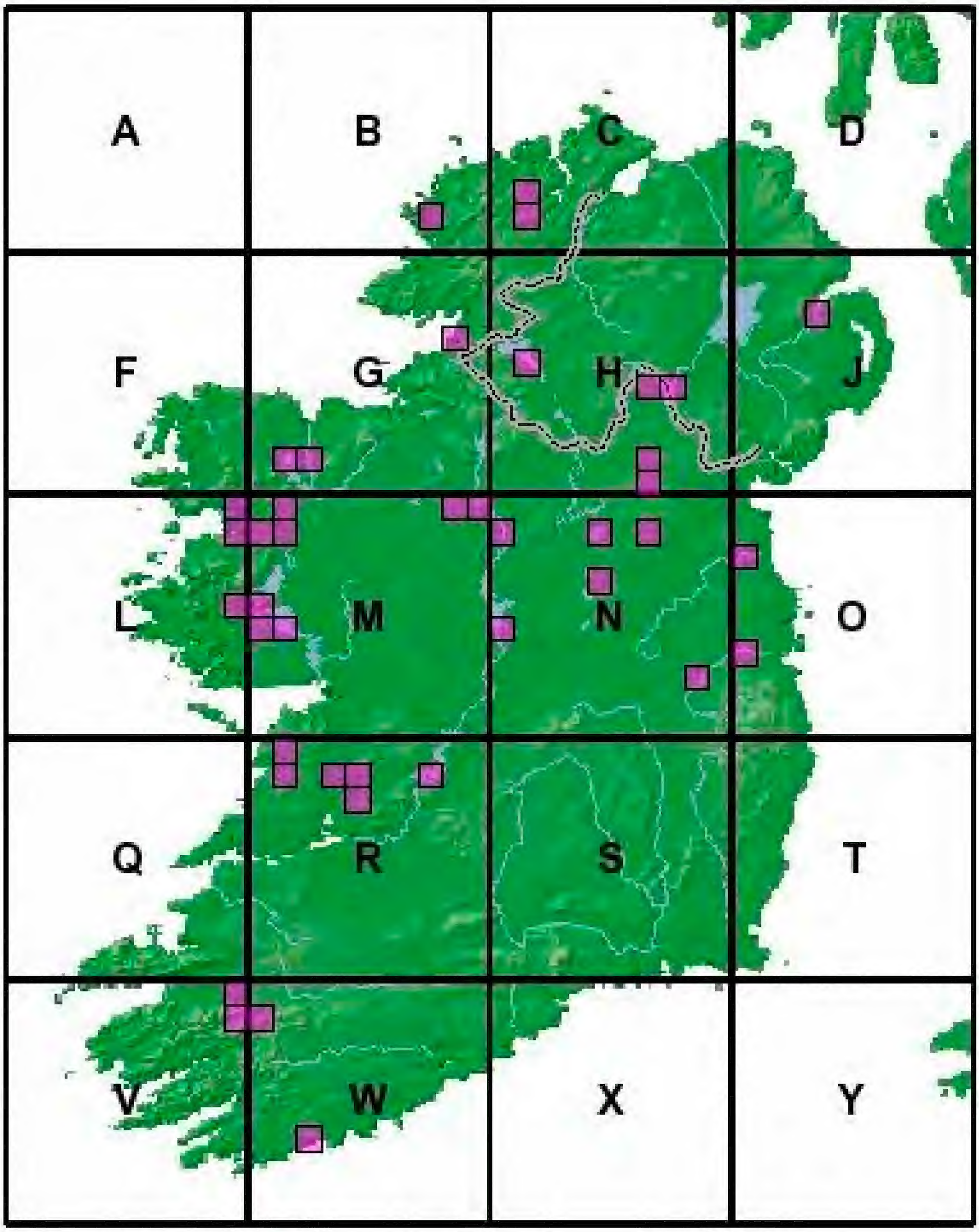

FIGURE 144. The known 10km distribution of *Ceraclea senilis* (Burmeister, 1839).
Habitat: canals, lakes and rivers.
Flight period: May – October.

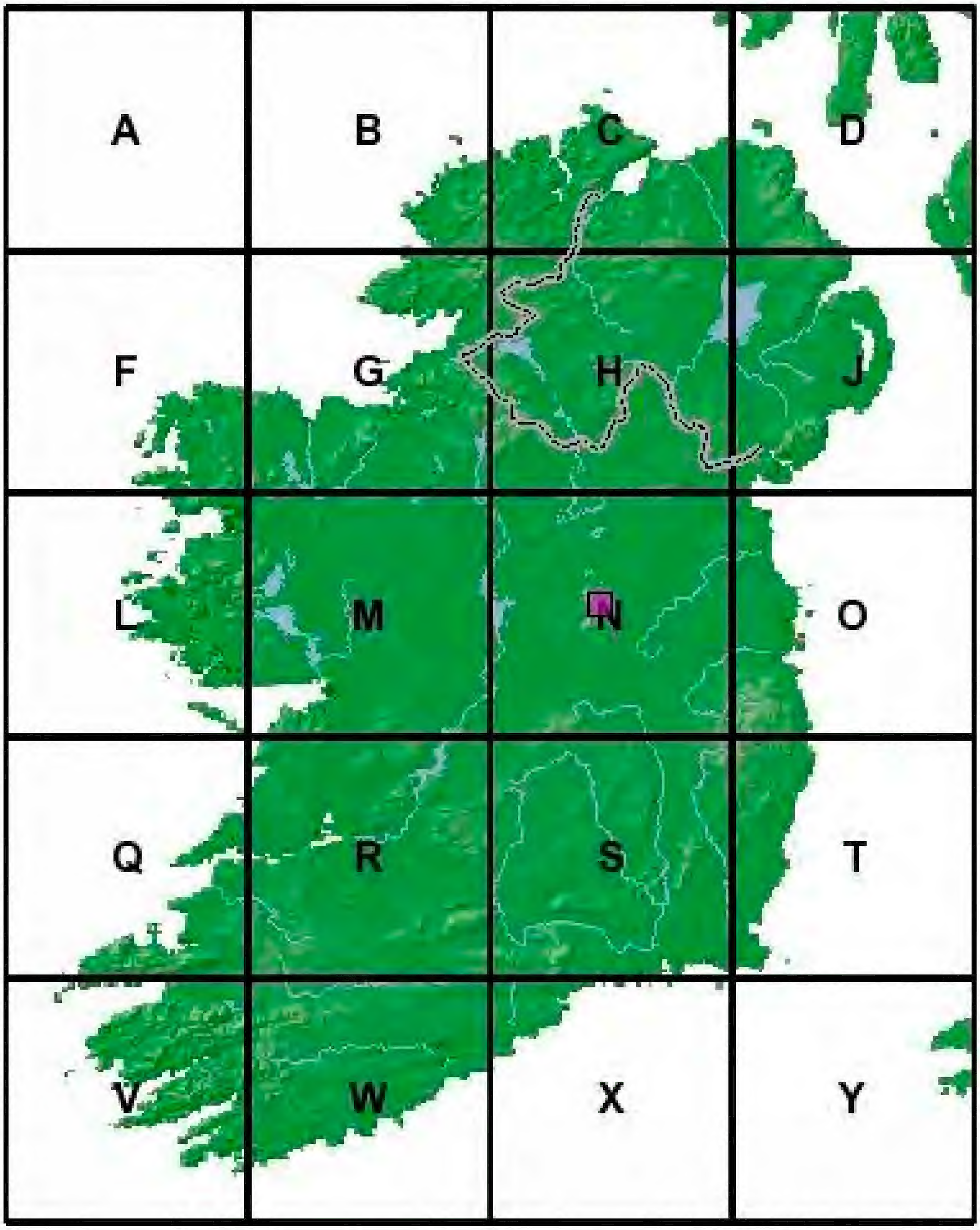

FIGURE 145. The known 10km distribution of *Erotesis baltica* McLachlan, 1877.
Habitat: pools and hollows in fens. **Flight period:** August (Britain: (May), June – August (September) (Wallace. pers. comm.)).

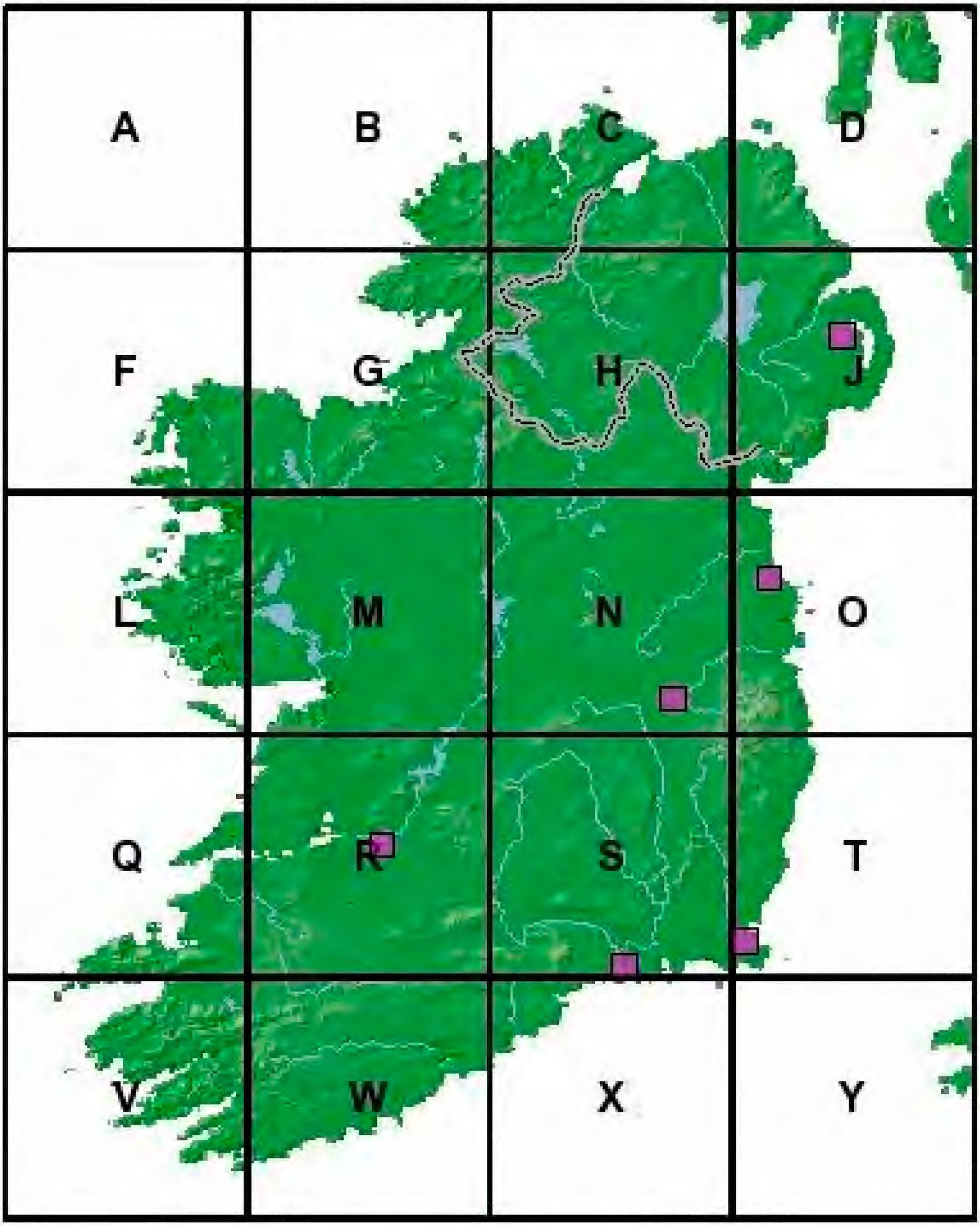

FIGURE 146. The known 10km distribution of *Leptocerus tineiformis* Curtis, 1834.
Habitat: fens, lakes and ponds.
Flight period: June – August.

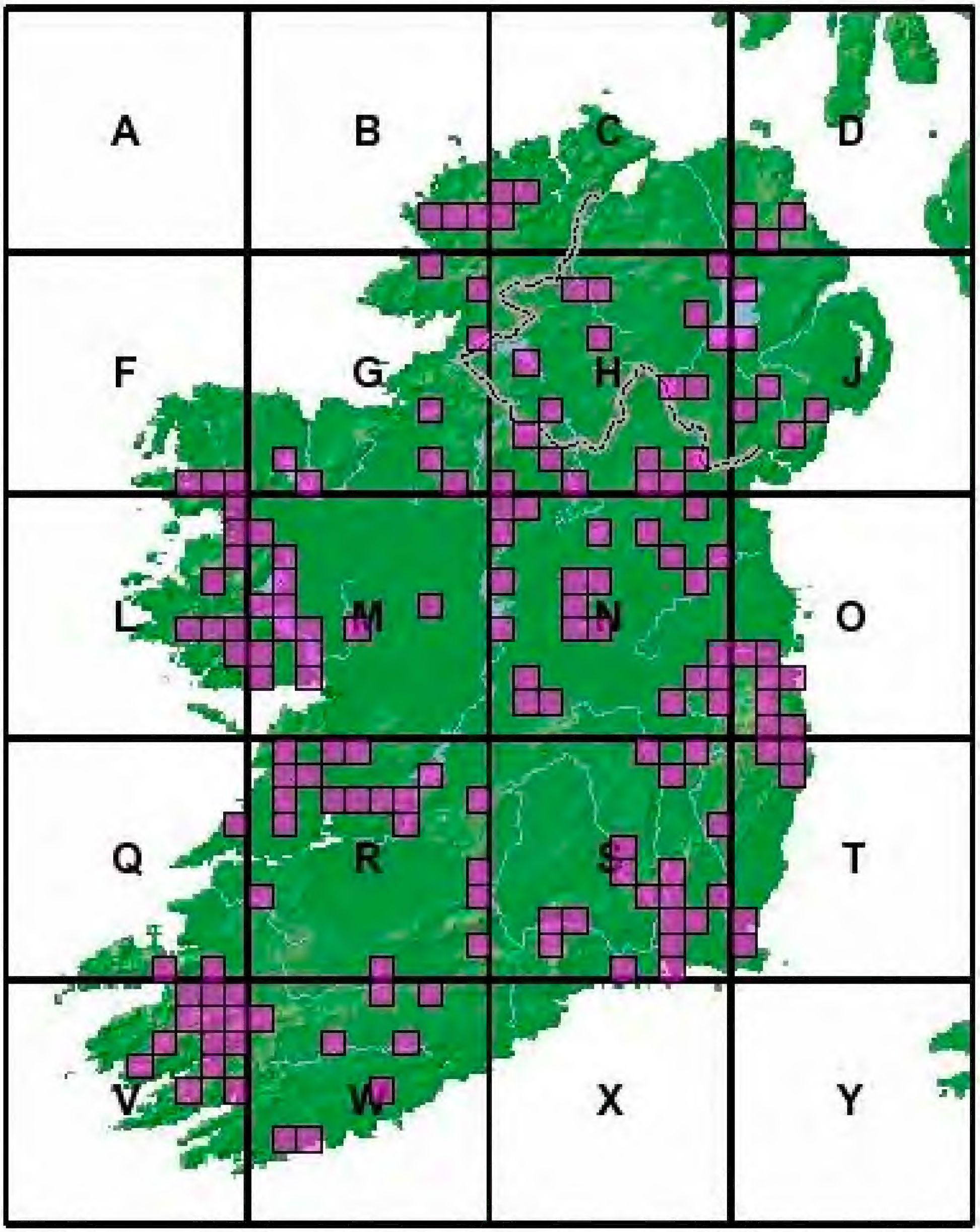

FIGURE 147. The known 10km distribution of *Mystacides azurea* (Linnaeus, 1761).
Habitat: canals, lakes, ponds, reservoirs and rivers.
Flight period: May – October.

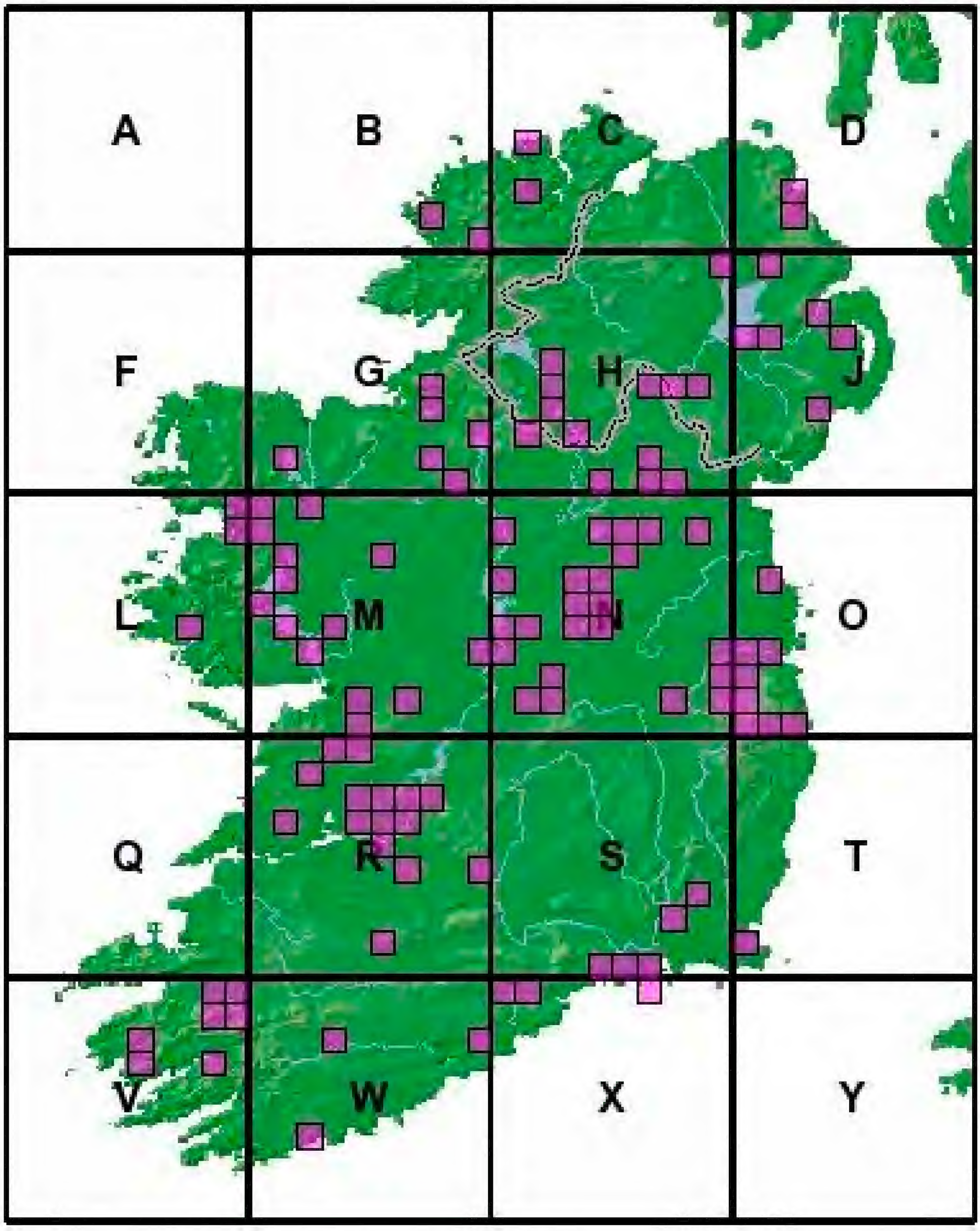

FIGURE 148. The known 10km distribution of *Mystacides longicornis* (Linnaeus, 1758).
Habitat: canals, lakes, ponds, reservoirs, rivers and turloughs.
Flight period: May – October.

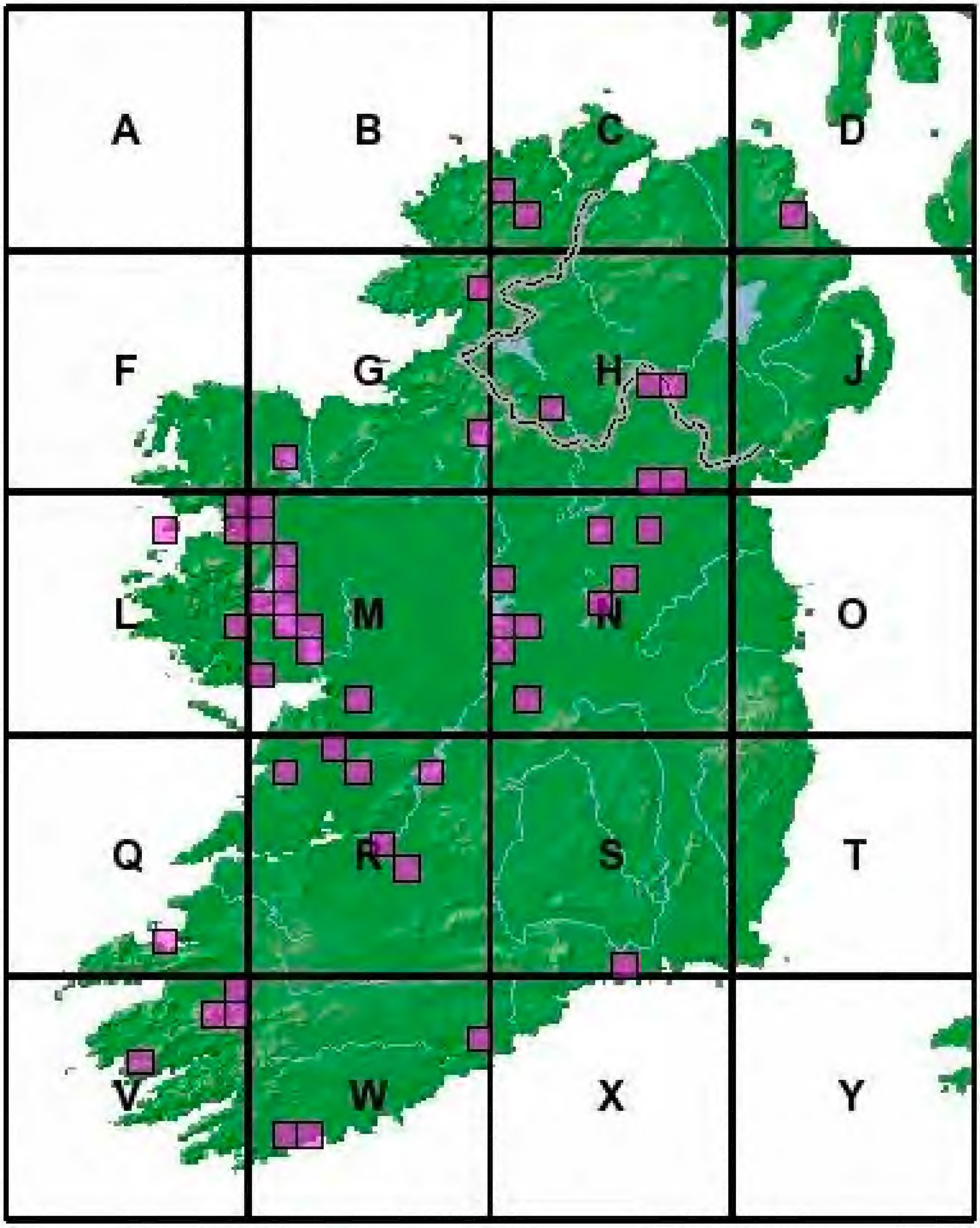

FIGURE 149. The known 10km distribution of *Oecetis furva* (Rambur, 1834).
Habitat: lakes, ponds and turloughs.
Flight period: June – October.

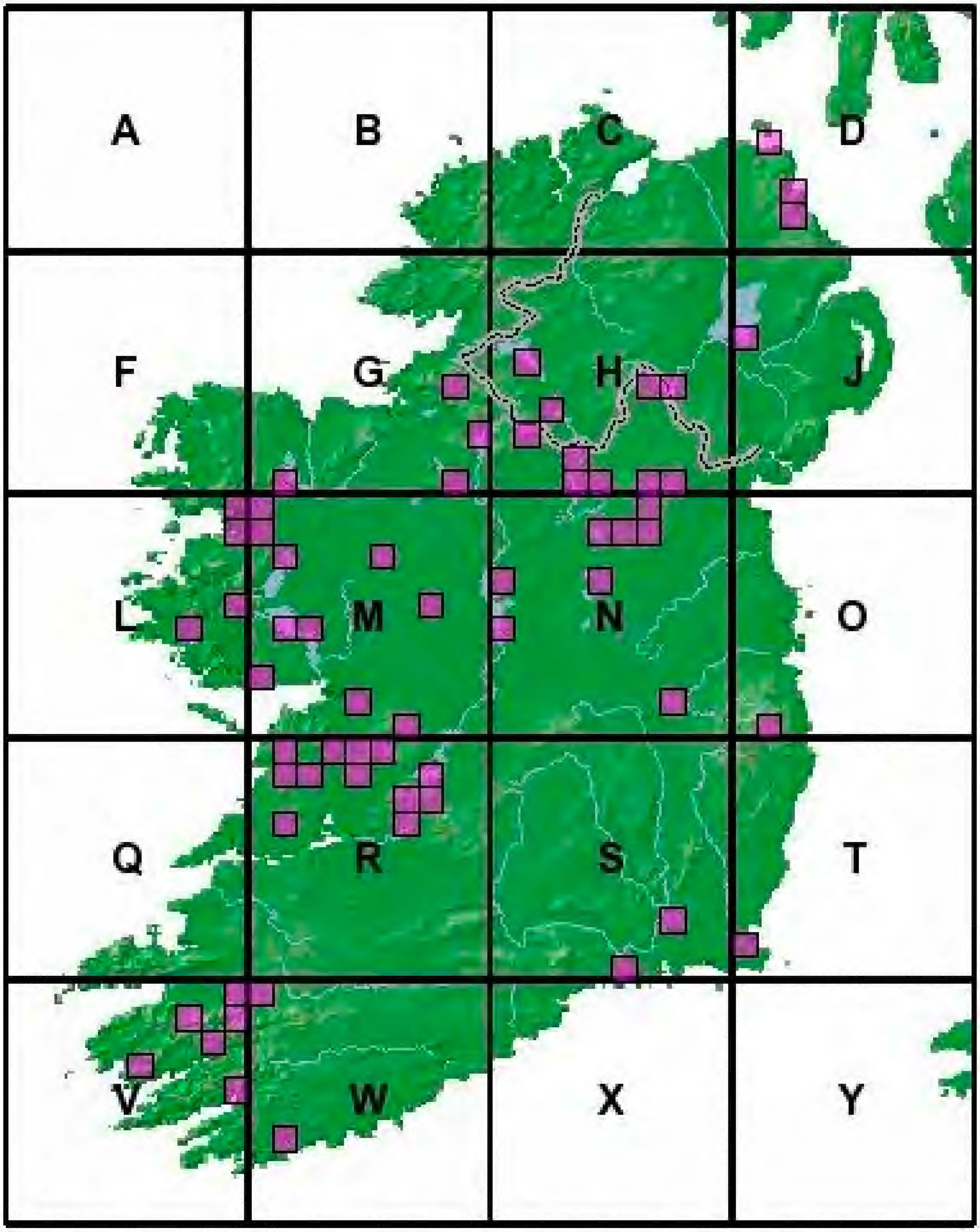

FIGURE 150. The known 10km distribution of *Oecetis lacustris* (Pictet, 1834).
Habitat: lakes, ponds and turloughs.
Flight period: June – October.

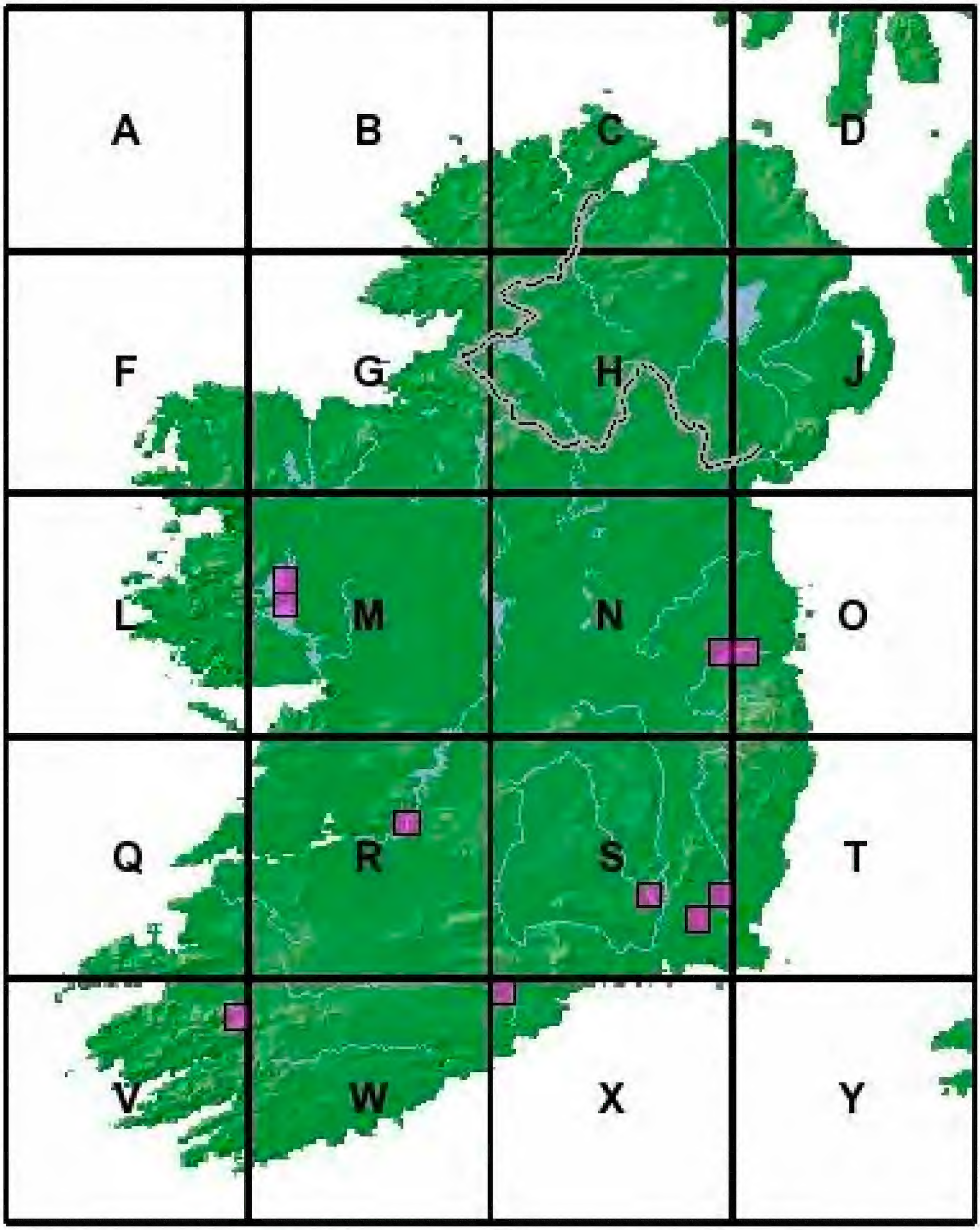

FIGURE 151. The known 10km distribution of *Oecetis notata* (Rambur, 1842).
Habitat: moderately fast flowing rivers.
Flight period: June – August.

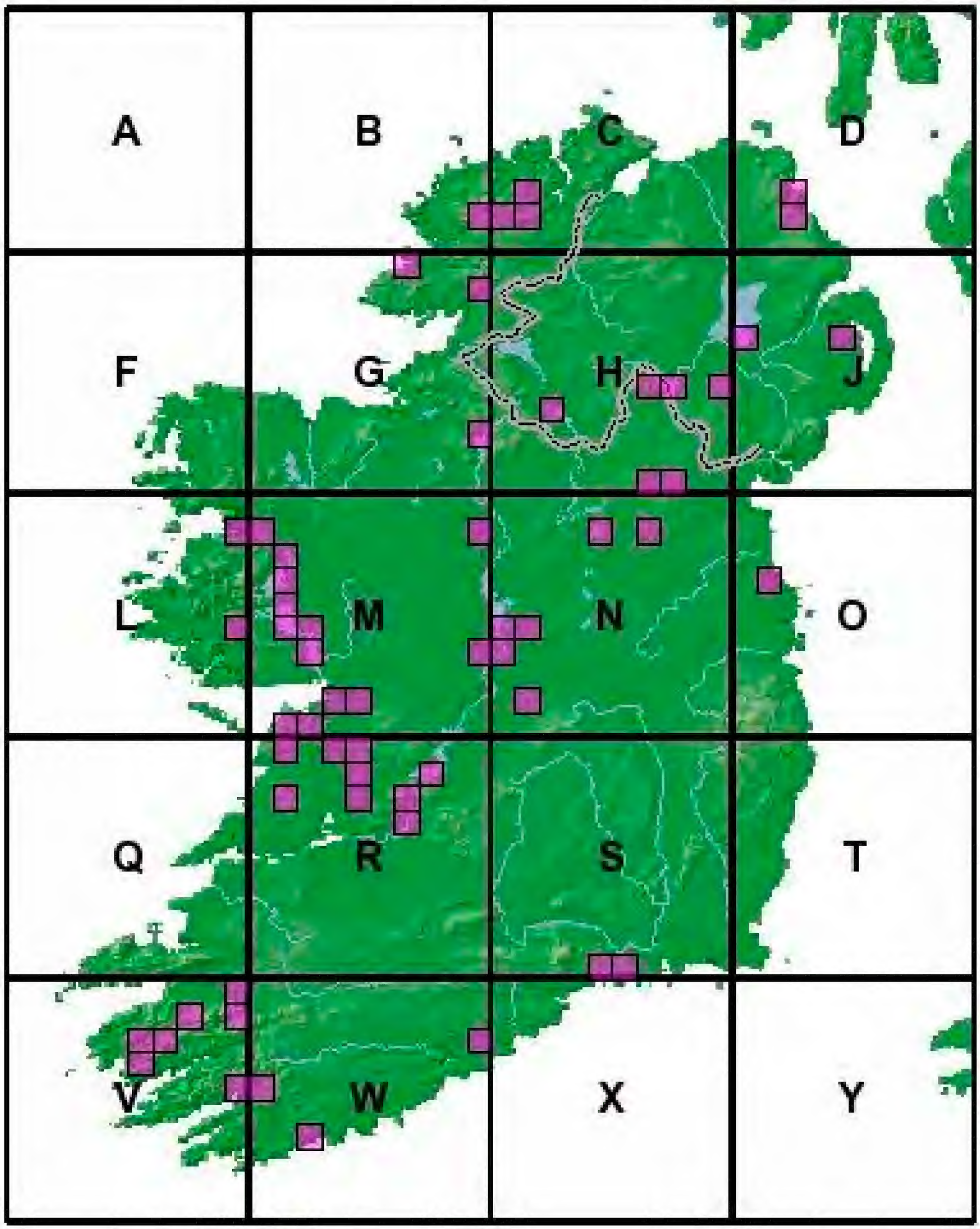

FIGURE 152. The known 10km distribution of *Oecetis ochracea* (Curtis, 1825).
Habitat: lakes, ponds and slow rivers such as the Rivers Erne and Shannon.
Flight period: May – September.

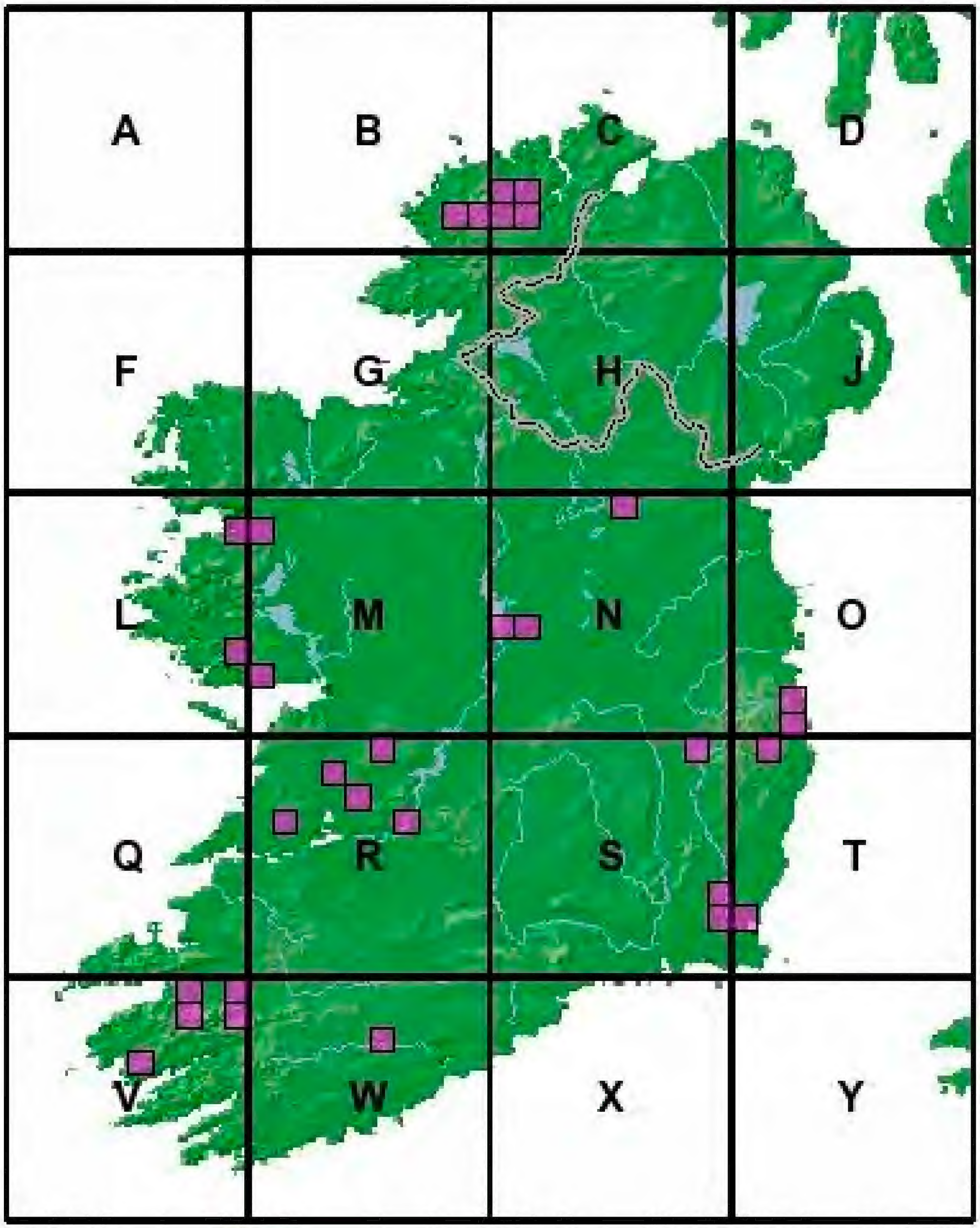

FIGURE 153. The known 10km distribution of *Oecetis testacea* Curtis, 1825.
Habitat: lakes and rivers.
Flight period: May – September.

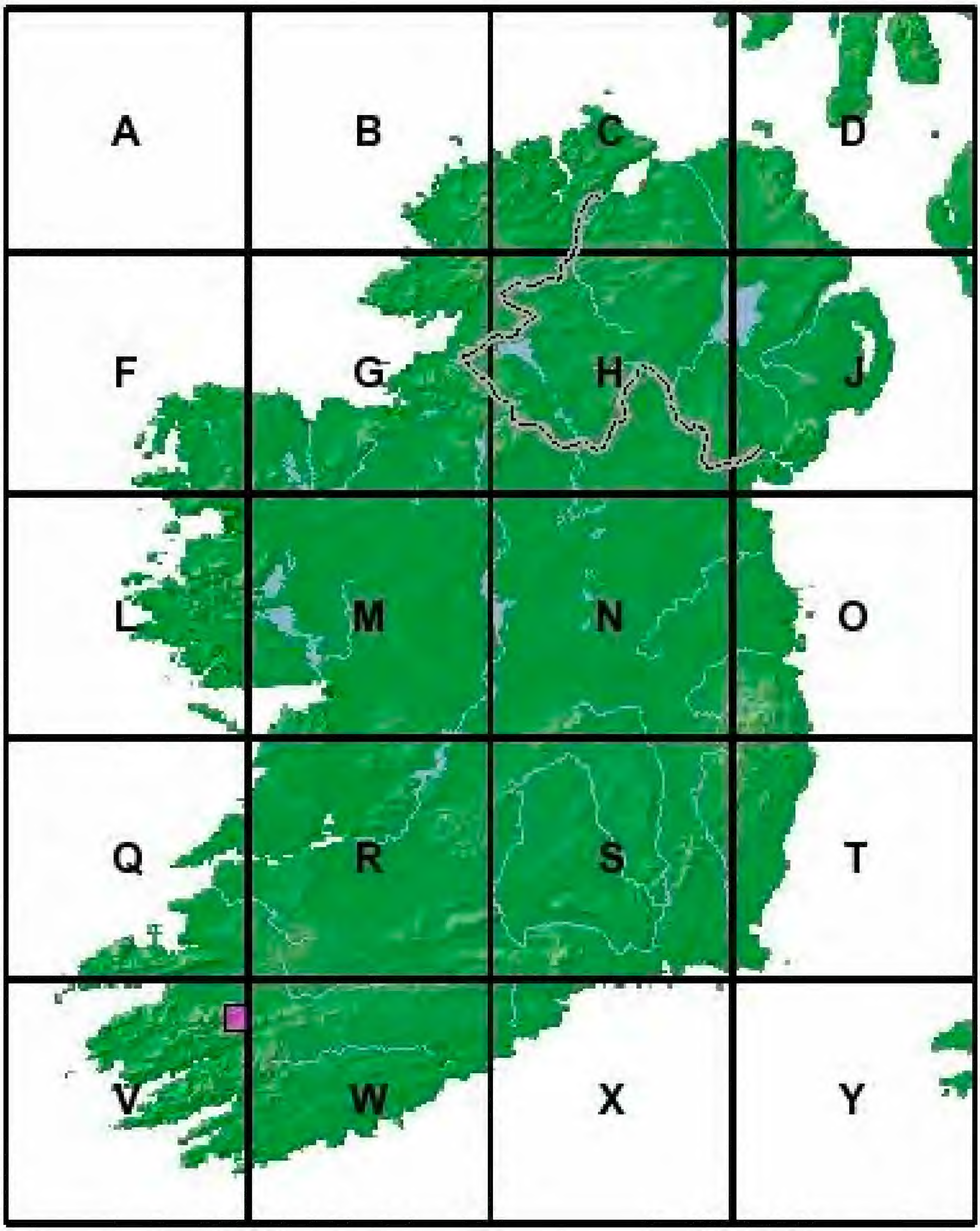

FIGURE 154. The known 10km distribution of *Setodes argentipunctellus* McLachlan, 1877.
Habitat: lakes.
Flight period: June – August.

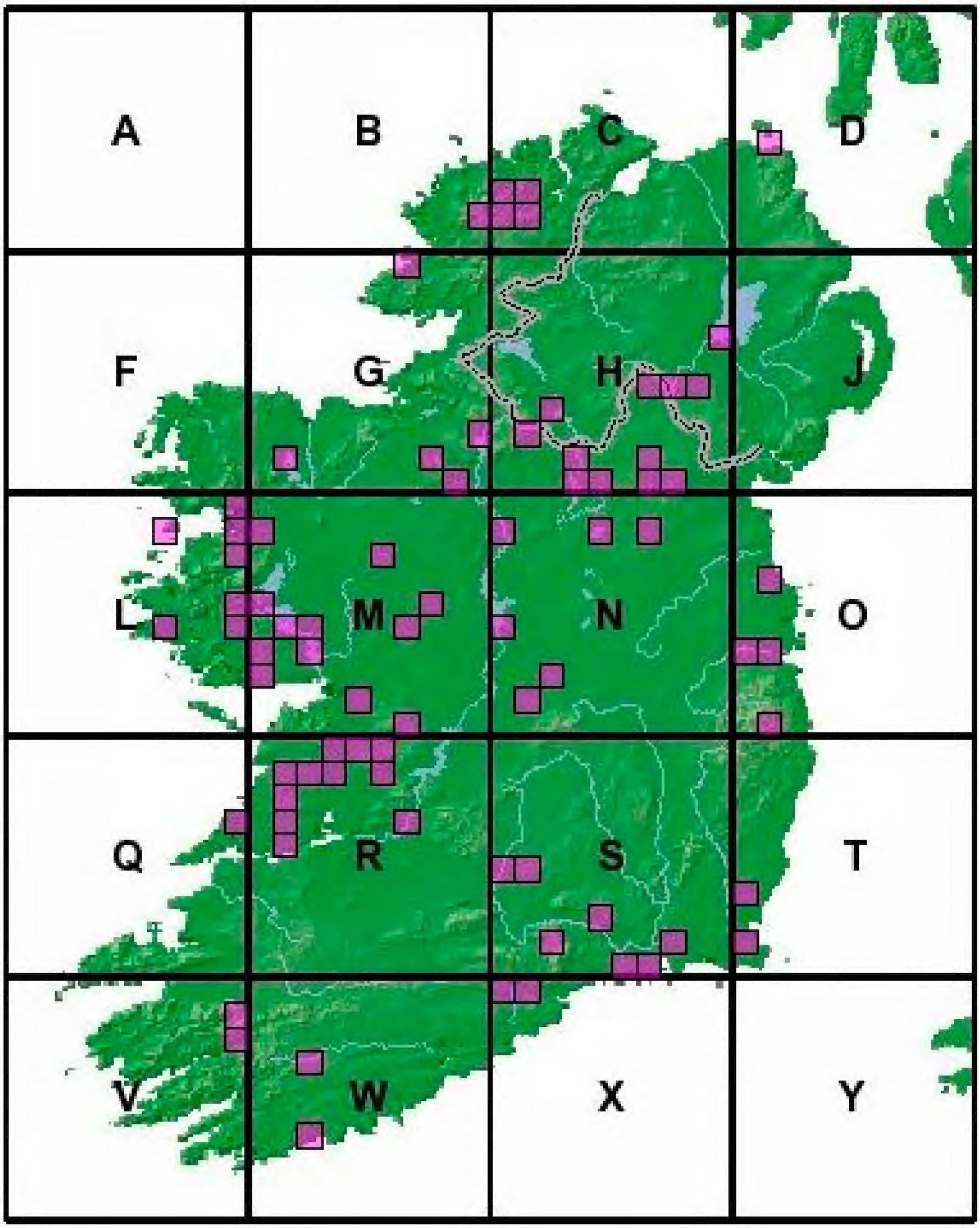

FIGURE 155. The known 10km distribution of *Triaenodes bicolor* (Curtis, 1834).
Habitat: lakes, ponds, raised bogs, reservoirs, the slow moving areas of rivers, and turloughs.
Flight period: May – September.

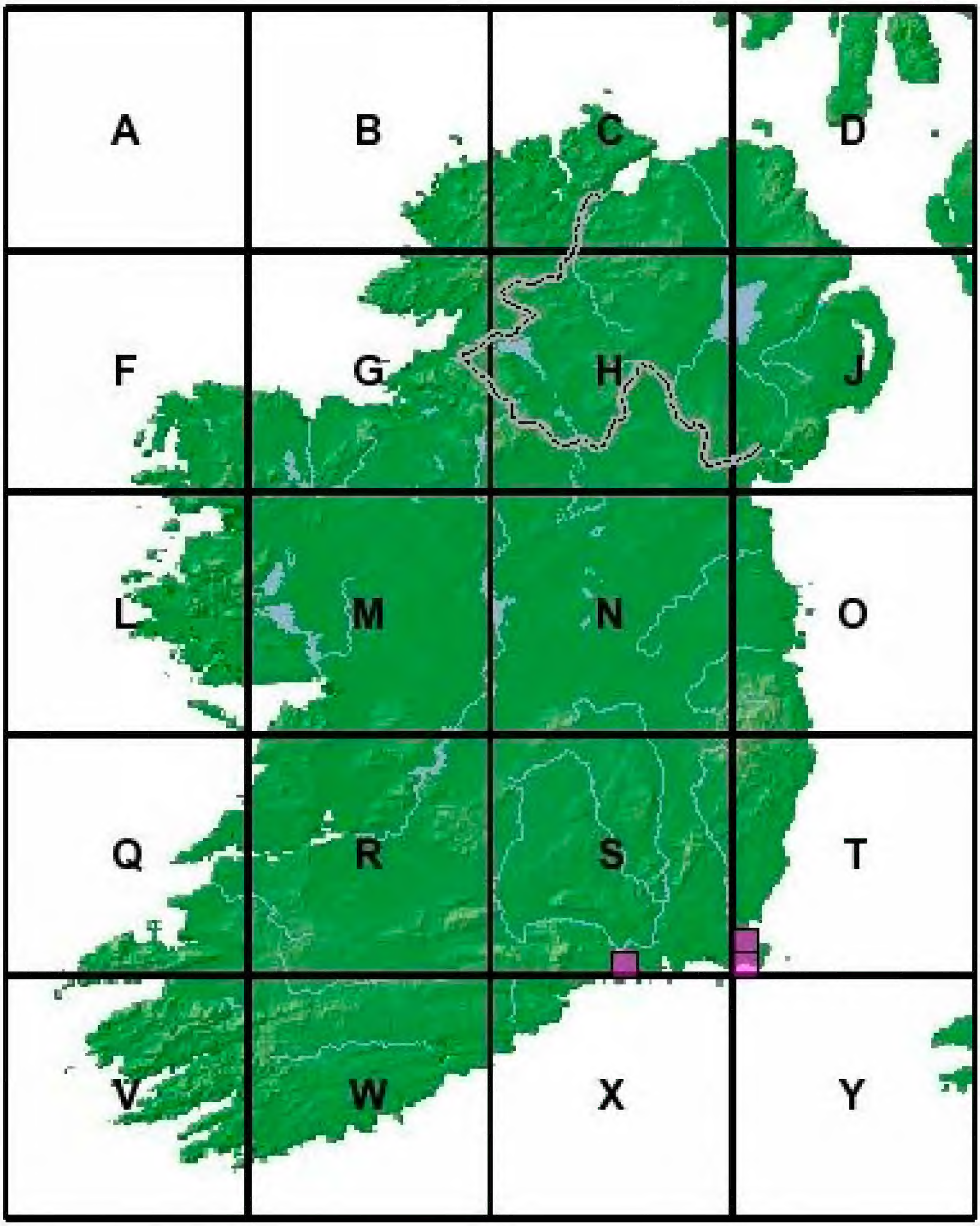

FIGURE 156. The known 10km distribution of *Ylodes reuteri* (McLachlan, 1880).
Habitat: brackish water.
Flight period: June – September.

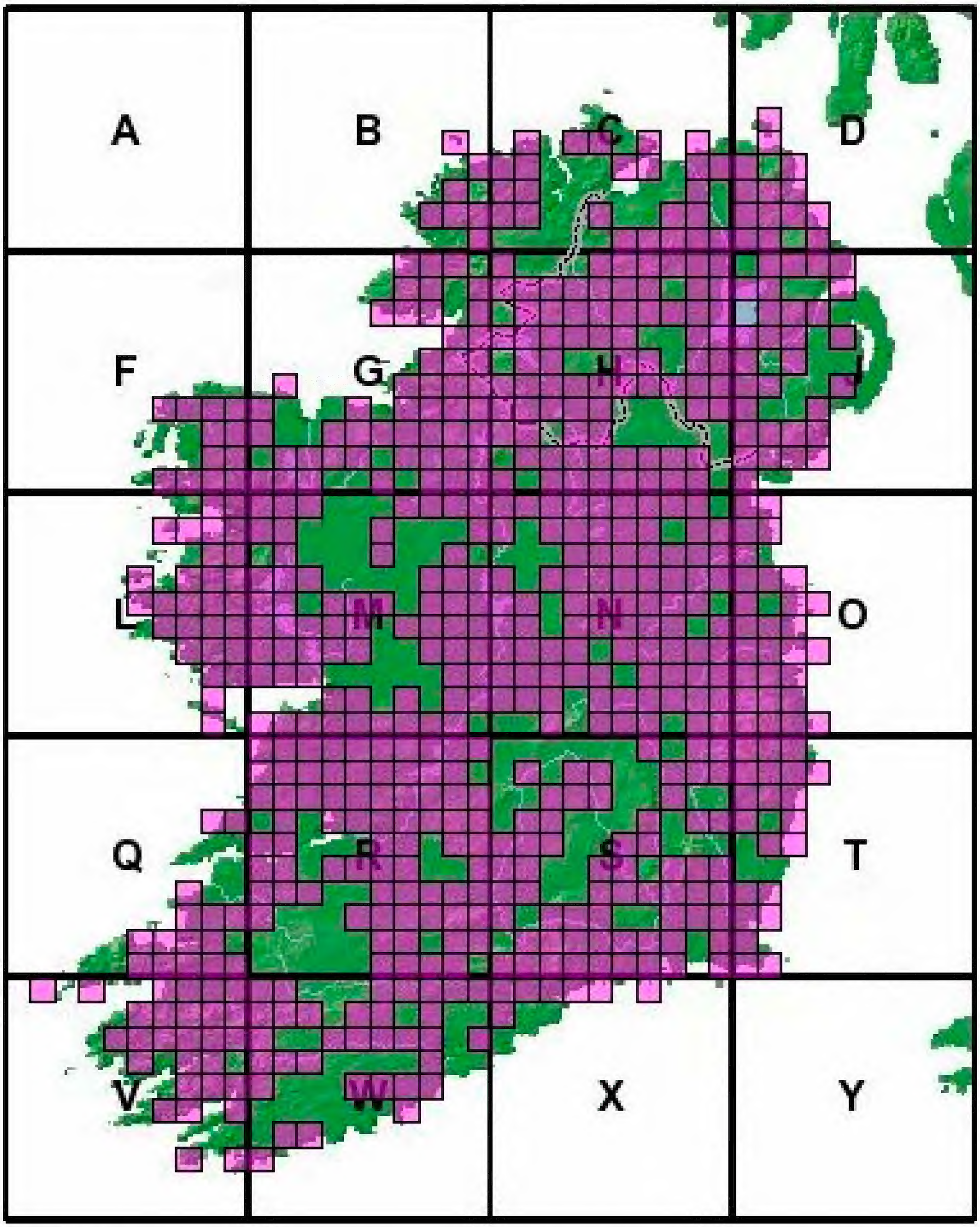

FIGURE 157. The distribution of the 10km records. To-date, some areas of the island have no Trichoptera records.

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PLATE 6. *Hagenella clathrata* (map: Figure 73). Left: normally coloured adult. Photograph © Martin Gammell. Right: dark coloured adult. Photograph © Caitriona Carlin.

PLATE 7. Left: *Ceraclea nigronervosa* (map: Figure 143). Right: *Oecetis ochracea* (map: Figure 152). Photographs © Cathal McNaughton.

APPENDIX 1. A revised list of county records.

This list is based on the records in O'Connor (2015), O'Connor and O'Connor (2016, 2017, 2018, 2019) and O'Connor and O'Connor (in press). Although the records from the latter paper have yet to be uploaded to the National Biodiversity Data Centre's data base and are therefore not shown on the 10km maps, it has been possible to include the new counties in the present county list. The boundaries of the Irish counties are shown (Fig. 158). The counties are also shown superimposed on the Irish grid (Fig. 159). The number opposite each species' name corresponds to the figure number of its distribution map.

Family RHYACOPHILIDAE

1. *Rhyacophila dorsalis* (Curtis, 1834)

Antrim, Armagh, Carlow, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Laois, Leitrim, Limerick, Louth, Mayo, Meath, Monaghan, Offaly, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (30/32).

2. *Rhyacophila munda* McLachlan, 1862

Antrim, Armagh, Carlow, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Leitrim, Limerick, Mayo, Meath, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (25/32)

Family GLOSSOSOMATIDAE

3. *Agapetus delicatulus* McLachlan, 1884

Clare, Cork, Donegal, Dublin, Kerry, Kildare, Kilkenny, Laois, Limerick, Meath, Roscommon, Sligo, Tipperary, Waterford, Wexford, Wicklow (16/32).

4. *Agapetus fuscipes* Curtis, 1834

Antrim, Carlow, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Laois, Leitrim, Limerick, Louth, Mayo, Meath, Offaly, Roscommon, Sligo, Tipperary, Waterford, Westmeath, Wexford, Wicklow (28/32).

5. *Agapetus ochripes* Curtis, 1834

Antrim, Carlow, Cavan, Clare, Cork, Donegal, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Laois, Leitrim, Limerick, Louth, Mayo, Meath, Offaly, Sligo, Tipperary, Waterford, Westmeath, Wexford, Wicklow (25/32).

6. *Glossosoma boltoni* Curtis, 1834

Antrim, Carlow, Cavan, Clare, Cork, Derry, Donegal, Dublin, Galway, Kerry, Kildare, Kilkenny, Leitrim, Limerick, Mayo, Meath, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wickow (23/32).

7. *Glossosoma conformis* Neboiss, 1963

Antrim, Clare, Cork, Donegal, Kerry, Leitrim, Mayo, Offaly, Tipperary, Waterford, Wexford,

Wicklow (12/32).

Family HYDROPTILIDAE

8. *Agraylea multipunctata* Curtis, 1834

Antrim, Armagh, Carlow, Cavan, Clare, Cork, Donegal, Dublin, Fermanagh, Galway, Kerry, Kildare, Leitrim, Longford, Mayo, Meath, Monaghan, Roscommon, Sligo, Tipperary, Waterford, Westmeath, Wexford, Wicklow (24/32).

9. *Agraylea sexmaculata* Curtis, 1834

Down, Fermanagh, Limerick, Roscommon, Tipperary, Waterford, Wexford (7/32).

10. *Allotrichia pallicornis* (Eaton, 1873)

Antrim, Carlow, Derry, Dublin, Fermanagh, Galway, Kildare, Kilkenny, Leitrim, Limerick, Meath, Tipperary, Tyrone, Waterford, Westmeath, Wicklow (16/32).

11. *Hydroptila angulata* Mosely, 1922

Armagh, Carlow, Derry, Donegal, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Mayo, Roscommon, Waterford, Wexford, Wicklow (15/32).

12. *Hydroptila cornuta* Mosley, 1922

Carlow, Cavan, Clare, Fermanagh, Kerry, Kilkenny, Mayo, Meath, Roscommon, Tipperary, Westmeath, Wexford, Wicklow (13/32).

13. *Hydroptila forcipata* (Eaton, 1873)

Carlow, Cavan, Clare, Cork, Derry, Donegal, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Leitrim, Limerick, Mayo, Meath, Monaghan, Offaly, Roscommon, Tipperary, Waterford, Westmeath, Wexford, Wicklow (24/32).

14. *Hydroptila lotensis* Mosely, 1930

Dublin, Kildare, Kilkenny, Waterford (4/32).

15. *Hydroptila martini* Marshall, 1977

Cavan, Cork, Donegal, Kerry, Kildare, Laois, Tipperary, Westmeath, Wexford (9/32).

16. *Hydroptila occulta* (Eaton, 1873)

Cavan, Kerry, Tipperary (3/32).

17. *Hydroptila pulchricornis* Pictet, 1834

Cavan, Clare, Fermanagh, Galway, Kerry, Longford, Meath, Westmeath, Wexford (9/32).

18. *Hydroptila simulans* Mosely, 1920

Antrim, Carlow, Donegal, Dublin, Galway, Kerry, Kildare, Kilkenny, Limerick, Mayo, Meath, Tipperary, Waterford, Wexford (14/32).

19. *Hydroptila sparsa* Curtis, 1834

Armagh, Carlow, Cavan, Clare, Cork, Dublin, Fermanagh, Kerry, Kildare, Kilkenny, Limerick, Longford, Mayo, Meath, Monaghan, Offaly, Roscommon, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford (23/32).

20. *Hydroptila tigurina* Ris, 1894
Kerry (1/32).
21. *Hydroptila tineoides* Dalman, 1819
Armagh, Cavan, Clare, Cork, Derry, Donegal, Dublin, Fermanagh, Galway, Kerry, Leitrim, Limerick, Mayo, Meath, Monaghan, Roscommon, Westmeath, Wicklow (18/32).
22. *Hydroptila valesiaca* Schmid, 1947
Kerry, Kildare (2/32).
23. *Hydroptila vectis* Curtis, 1834
Donegal, Dublin, Galway, Kildare (4/32).
24. *Ithytrichia clavata* Morton, 1905
Kerry (1/32).
25. *Ithytrichia lamellaris* Eaton, 1873
Carlow, Cavan, Clare, Cork, Donegal, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Laois, Limerick, Meath, Monaghan, Tipperary, Wexford, Wicklow (18/32).
26. *Orthotrichia angustella* (McLachlan, 1865)
Clare, Kerry, Limerick, Meath, Waterford, Westmeath (6/32).
27. *Orthotrichia costalis* (Curtis, 1834)
Clare, Dublin, Kerry, Mayo, Tipperary, Waterford (6/32).
28. *Oxyethira falcata* Morton, 1893
Cavan, Clare, Donegal, Galway, Kerry, Kildare, Mayo, Offaly, Tipperary, Westmeath, Wicklow (11/32).
29. *Oxyethira flavicornis* (Pictet, 1834)
Antrim, Cavan, Clare, Cork, Donegal, Dublin, Fermanagh, Galway, Kerry, Longford, Mayo, Meath, Monaghan, Offaly, Roscommon, Waterford, Westmeath, Wexford, Wicklow (19/32).
30. *Oxyethira frici* Klapálek, 1891
Cavan, Clare, Donegal, Galway, Kerry, Kildare, Mayo, Tipperary, Westmeath, Wicklow (10/32).
31. *Oxyethira mirabilis* Morton, 1904
Donegal, Mayo (2/32).
32. *Oxyethira sagittifera* Ris, 1897
Donegal, Galway, Kerry, Mayo (4/32).
33. *Oxyethira simplex* Ris, 1897
Donegal, Galway, Kerry, Kildare, Leitrim, Mayo, Westmeath, Wicklow (8/32).
34. *Oxyethira tristella* Klapálek, 1895
Galway, Kerry, Mayo (3/32).
35. *Tricholeiochiton fagesii* (Guinard, 1879)
Galway, Kerry, Mayo, Offaly, Westmeath (5/32).

Family PHILOPOTAMIDAE

36. *Chimarra marginata* (Linnaeus, 1761)

Armagh, Carlow, Clare, Cork, Donegal, Dublin, Galway, Kerry, Kildare, Kilkenny, Limerick, Mayo, Meath, Sligo, Waterford, Wexford (16/32).

37. *Philopotamus montanus* (Donovan, 1813)

Antrim, Carlow, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kilkenny, Leitrim, Limerick, Mayo, Monaghan, Tipperary, Tyrone, Waterford, Wexford, Wicklow (22/32).

38. *Wormaldia mediana* McLachlan, 1878

Cork, Kerry, Wicklow (3/32).

39. *Wormaldia occipitalis* (Pictet, 1834)

Carlow, Cavan, Clare, Cork, Donegal, Down, Dublin, Galway, Kerry, Kildare, Kilkenny, Limerick, Mayo, Sligo, Tipperary, Waterford, Wexford, Wicklow (18/32).

40. *Wormaldia subnigra* McLachlan, 1865

Cavan, Clare, Dublin, Galway, Kerry, Mayo, Waterford, Westmeath, Wexford, Wicklow (10/32).

Family ECNOMIDAE

41. *Ecnomus tenellus* (Rambur, 1842)

Antrim, Armagh, Cavan, Clare, Cork, Donegal, Fermanagh, Galway, Kerry, Kildare, Leitrim, Limerick, Longford, Mayo, Meath, Monaghan, Offaly, Roscommon, Waterford, Westmeath, Wexford (21/32).

Family POLYCENTROPODIDAE

42. *Cyrnus flavidus* McLachlan, 1864

Antrim, Armagh, Cavan, Clare, Donegal, Fermanagh, Galway, Kerry, Leitrim, Mayo, Meath, Offaly, Roscommon, Sligo, Tipperary, Westmeath (16/32).

43. *Cyrnus insolutus* McLachlan, 1878

Clare, Waterford (2/32).

44. *Cyrnus trimaculatus* (Curtis, 1834)

Antrim, Armagh, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Leitrim, Limerick, Mayo, Meath, Monaghan, Offaly, Roscommon, Sligo, Tipperary, Tyrone, Westmeath, Wexford, Wicklow (27/32).

45. *Holocentropus dubius* (Rambur, 1842)

Antrim, Clare, Cork, Donegal, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Limerick, Mayo, Monaghan, Offaly, Roscommon, Tipperary, Waterford, Westmeath, Wicklow (18/32).

46. *Holocentropus picicornis* (Stephens, 1836)
Antrim, Armagh, Cavan, Clare, Cork, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Longford, Mayo, Monaghan, Offaly, Roscommon, Sligo, Tipperary, Waterford, Westmeath, Wexford, Wicklow (23/32).
47. *Neureclipsis bimaculata* (Linnaeus, 1758)
Cavan, Clare, Cork, Derry, Donegal, Dublin, Fermanagh, Galway, Kerry, Leitrim, Limerick, Longford, Mayo, Meath, Monaghan, Offaly, Roscommon, Tipperary, Westmeath, Wicklow (20/32).
48. *Plectrocnemia conspersa* (Curtis, 1834)
Antrim, Armagh, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Leitrim, Mayo, Meath, Monaghan, Roscommon, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (25/32).
49. *Plectrocnemia geniculata* McLachlan, 1871
Antrim, Armagh, Cavan, Clare, Cork, Donegal, Dublin, Fermanagh, Galway, Kerry, Kildare, Limerick, Mayo, Meath, Monaghan, Sligo, Tipperary, Westmeath, Wexford, Wicklow (20/32).
50. *Polycentropus flavomaculatus* (Pictet, 1834)
Antrim, Armagh, Carlow, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Laois, Leitrim, Limerick, Longford, Louth, Mayo, Meath, Monaghan, Offaly, Roscommon, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (32/32).
51. *Polycentropus irroratus* (Curtis, 1835)
Armagh, Carlow, Cavan, Clare, Cork, Derry, Donegal, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Laois, Mayo, Meath, Monaghan, Roscommon, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wicklow (24/32).
52. *Polycentropus kingi* McLachlan, 1881
Antrim, Cavan, Clare, Cork, Donegal, Down, Dublin, Galway, Kerry, Laois, Mayo, Meath, Monaghan, Roscommon, Sligo, Waterford, Westmeath, Wexford, Wicklow (19/32).

Family PSYCHOMYIIDAE

53. *Lype phaeopa* (Stephens, 1836)
Antrim, Carlow, Cavan, Clare, Cork, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Leitrim, Longford, Mayo, Meath, Monaghan, Roscommon, Sligo, Tipperary, Waterford, Westmeath, Wexford, Wicklow (24/32).
54. *Lype reducta* (Hagen, 1868)
Cork, Donegal, Dublin, Kerry, Kilkenny, Monaghan, Tipperary, Waterford, Wexford (9/32).
55. *Psychomyia fragilis* (Pictet, 1834)
Cavan, Clare, Cork, Galway, Kerry, Mayo, Meath, Roscommon, Sligo, Tyrone, Westmeath

(11/32).

56. *Psychomyia pusilla* (Fabricius, 1781)

Antrim, Armagh, Carlow, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Laois, Leitrim, Limerick, Mayo, Meath, Monaghan, Roscommon, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (29/32).

57. *Tinodes dives* (Pictet 1834)

Sligo (1/32).

58. *Tinodes maclachlani* Kimmins, 1966

Carlow, Cavan, Clare, Cork, Donegal, Down, Dublin, Galway, Kerry, Mayo, Monaghan, Sligo, Tipperary, Waterford, Westmeath, Wexford, Wicklow (17/32).

59. *Tinodes maculicornis* (Pictet 1834)

Carlow, Cavan, Clare, Dublin, Galway, Kilkenny, Limerick, Mayo, Meath, Monaghan, Roscommon, Sligo, Tipperary, Westmeath, Wexford (15/32).

60. *Tinodes unicolor* (Pictet 1834)

Clare, Donegal, Dublin, Kildare, Kilkenny, Wicklow (6/32).

61. *Tinodes waeneri* (Linnaeus, 1758)

Antrim, Armagh, Carlow, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Leitrim, Limerick, Longford, Mayo, Meath, Monaghan, Offaly, Roscommon, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (30/32).

Family HYDROPSYCHIDAE

62. *Cheumatopsyche lepida* (Pictet, 1834)

Carlow, Clare, Cork, Donegal, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Laois, Limerick, Mayo, Meath, Monaghan, Roscommon, Tipperary, Tyrone, Waterford, Westmeath, Wexford (21/32).

63. *Diplectrona felix* McLachlan, 1878

Antrim, Clare, Cork, Donegal, Down, Dublin, Galway, Kerry, Kilkenny, Leitrim, Mayo, Meath, Tipperary, Waterford, Wexford, Wicklow (16/32).

64. *Hydropsyche angustipennis* (Curtis, 1834)

Antrim, Armagh, Cavan, Clare, Cork, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Leitrim, Limerick, Mayo, Meath, Offaly, Tipperary, Tyrone, Waterford, Westmeath, Wexford (21/32).

65. *Hydropsyche contubernalis* McLachlan, 1865

Carlow, Clare, Cork, Derry, Dublin, Galway, Kerry, Kildare, Mayo, Meath, Roscommon, Sligo, Tipperary, Waterford, Westmeath, Wicklow (16/32).

66. *Hydropsyche fulvipes* (Curtis, 1834)
Wexford (1/32).
67. *Hydropsyche instabilis* (Curtis, 1834)
Antrim, Carlow, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Laois, Leitrim, Limerick, Mayo, Sligo, Tipperary, Tyrone, Waterford, Wexford, Wicklow (24/32).
68. *Hydropsyche pellucidula* (Curtis, 1834)
Antrim, Armagh, Carlow, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Laois, Leitrim, Limerick, Louth, Mayo, Meath, Offaly, Roscommon, Sligo, Tipperary, Tyrone, Westmeath, Wexford, Wicklow (29/32).
69. *Hydropsyche siltalai* Döhler, 1963
Antrim, Armagh, Carlow, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Laois, Leitrim, Limerick, Louth, Mayo, Meath, Monaghan, Offaly, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (30/32).

Family PHRYGANEIDAE

70. *Agrypnia obsoleta* (Hagen, 1864)
Antrim, Cavan, Clare, Donegal, Dublin, Fermanagh, Galway, Kerry, Kildare, Leitrim, Limerick, Longford, Mayo, Meath, Monaghan, Offaly, Roscommon, Sligo, Tipperary, Westmeath, Wicklow (21/32).
71. *Agrypnia pagetana* Curtis, 1835
Cavan, Cork, Donegal, Fermanagh, Galway, Leitrim, Mayo, Monaghan, Roscommon, Sligo, Westmeath (11/32).
72. *Agrypnia varia* (Fabricius, 1793)
Antrim, Cavan, Clare, Cork, Donegal, Dublin, Galway, Kerry, Laois, Mayo, Monaghan, Offaly, Roscommon, Sligo, Waterford, Westmeath, Wicklow (17/32).
73. *Hagenella clathrata* (Kolenati, 1848)
Galway, Laois (2/32).
74. *Oligotricha striata* (Linnaeus, 1758)
Cavan, Roscommon, Westmeath (3/32).
75. *Phryganea bipunctata* Retzius, 1783
Antrim, Armagh, Cavan, Clare, Cork, Derry, Donegal, Dublin, Fermanagh, Galway, Kerry, Kildare, Laois, Limerick, Louth, Mayo, Meath, Monaghan, Offaly, Roscommon, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wicklow (26/32).
76. *Phryganea grandis* Linnaeus, 1758
Antrim, Armagh, Cavan, Clare, Cork, Derry, Donegal, Dublin, Fermanagh, Galway, Kerry, Kildare, Limerick, Mayo, Meath, Offaly, Sligo, Tipperary, Waterford, Westmeath, Wicklow

(21/32).

77. *Trichostegia minor* (Curtis, 1834)

Cork, Westmeath (2/32).

The unconfirmed larval record from Cork (Kavanagh and Harrison, 2014) is probably correct but it cannot be shown on the map due to the lack of necessary data.

Family GOERIDAE

78. *Goera pilosa* (Fabricius, 1775)

Armagh, Carlow, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Laois, Leitrim, Limerick, Louth, Mayo, Meath, Monaghan, Offaly, Roscommon, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (29/32).

79. *Silo nigricornis* (Pictet, 1834)

Antrim, Armagh, Carlow, Cavan, Clare, Cork, Derry, Dublin, Fermanagh, Galway, Kerry, Kilkenny, Laois, Leitrim, Mayo, Meath, Sligo, Tipperary, Tyrone, Westmeath, Wexford, Wicklow (22/32).

80. *Silo pallipes* (Fabricius, 1781)

Antrim, Armagh, Carlow, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Laois, Leitrim, Limerick, Mayo, Monaghan, Sligo, Tipperary, Tyrone, Waterford, Wexford, Wicklow (26/32).

Family LEPIDOSTOMATIDAE

81. *Crunoecia irrorata* (Curtis, 1834)

Antrim, Carlow, Cavan, Clare, Cork, Donegal, Down, Dublin, Galway, Kerry, Kildare, Kilkenny, Mayo, Sligo, Tipperary, Waterford, Wexford, Wicklow (18/32).

82. *Lepidostoma basale* (Kolenati, 1848)

Cavan, Carlow, Donegal, Fermanagh, Galway, Kerry (6/32).

83. *Lepidostoma hirtum* (Fabricius, 1775)

Antrim, Armagh, Carlow, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Leitrim, Limerick, Longford, Louth, Mayo, Meath, Monaghan, Offaly, Roscommon, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (31/32).

Family APATANIIDAE

84. *Apatania auricula* (Forsslund, 1930)

Clare, Kerry (2/32).

85. *Apatania muliebris* McLachlan, 1866

Antrim, Cavan, Clare, Derry, Kerry, Wexford (6/32).

86. *Apatania wallengreni* McLachlan, 1871
Donegal, Fermanagh, Galway, Mayo, Sligo, Westmeath (6/32).

Family LIMNEPHILIDAE

87. *Drusus annulatus* (Stephens, 1837)
Antrim, Carlow, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kilkenny, Laois, Leitrim, Limerick, Mayo, Meath, Sligo, Tipperary, Tyrone, Waterford, Wexford, Wicklow (24/32).

88. *Ecclisopteryx dalecarlica* Kolenati, 1848
Clare, Cork, Derry, Donegal, Dublin, Leitrim, Mayo, Sligo, Tipperary, Tyrone, Wicklow (11/32).

89. *Chaetopteryx villosa* (Fabricius, 1798)
Antrim, Cavan, Clare, Cork, Donegal, Dublin, Galway, Kerry, Kildare, Kilkenny, Leitrim, Mayo, Meath, Sligo, Tipperary, Waterford, Wexford, Wicklow (18/32).

90. *Anabolia brevipennis* (Curtis, 1834)
Cavan, Galway, Westmeath (3/32).

91. *Anabolia nervosa* (Curtis, 1834)
Antrim, Armagh, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Laois, Leitrim, Limerick, Longford, Louth, Mayo, Meath, Monaghan, Offaly, Roscommon, Sligo, Tipperary, Tyrone, Westmeath, Wexford, Wicklow (29/32).

92. *Glyphotaelius pellucidus* (Retzius, 1783)
Antrim, Armagh, Carlow, Cavan, Clare, Cork, Down, Dublin, Galway, Kerry, Kildare, Kilkenny, Laois, Leitrim, Limerick, Louth, Mayo, Meath, Monaghan, Roscommon, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (26/32).

93. *Grammotaulius nigropunctatus* (Retzius, 1783)
Armagh, Cavan, Clare, Cork, Galway, Leitrim, Louth, Monaghan, Offaly, Roscommon, Sligo, Tipperary, Waterford, Westmeath, Wicklow (15/32).

94. *Limnephilus affinis* Curtis, 1834
Antrim, Armagh, Carlow, Cavan, Clare, Cork, Derry, Donegal, Dublin, Galway, Kerry, Louth, Mayo, Meath, Monaghan, Offaly, Roscommon, Sligo, Tyrone, Waterford, Westmeath, Wexford, Wicklow (23/32).

95. *Limnephilus auricula* Curtis, 1834
Antrim, Armagh, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Laois, Leitrim, Limerick, Louth, Mayo, Meath, Monaghan, Offaly, Roscommon, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (29/32).

96. *Limnephilus binotatus* Curtis, 1834
Armagh, Cavan, Clare, Fermanagh, Galway, Kerry, Limerick, Mayo, Monaghan, Offaly,

Tipperary, Waterford, Westmeath, Wicklow (14/32).

97. *Limnephilus borealis* (Zetterstedt, 1840)

Antrim (1/32).

98. *Limnephilus centralis* Curtis, 1834

Antrim, Armagh, Carlow, Cavan, Clare, Cork, Derry, Donegal, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Mayo, Offaly, Roscommon, Tipperary, Waterford, Wexford, Wicklow (21/32).

99. *Limnephilus coenosus* Curtis, 1834

Antrim, Galway, Kerry, Tyrone (4/32).

100. *Limnephilus decipiens* (Kolenati, 1848)

Cavan, Clare, Dublin, Fermanagh, Galway, Kildare, Laois, Limerick, Mayo, Meath, Monaghan, Offaly, Tipperary, Waterford, Westmeath, Wexford (16/32).

101. *Limnephilus elegans* Curtis, 1834

Antrim, Clare, Cork, Donegal, Galway, Kerry, Mayo, Offaly, Tipperary, Waterford, Westmeath (11/32).

102. *Limnephilus flavicornis* (Fabricius, 1787)

Antrim, Armagh, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Laois, Leitrim, Limerick, Longford, Louth, Mayo, Meath, Monaghan, Offaly, Roscommon, Sligo, Tipperary, Waterford, Westmeath, Wexford, Wicklow (30/32).

103. *Limnephilus fuscinervis* (Zetterstedt, 1840)

Cavan, Clare, Galway, Kildare, Mayo, Monaghan, Offaly, Roscommon, Westmeath (9/32).

104. *Limnephilus griseus* (Linnaeus, 1758)

Clare, Cork, Donegal, Galway, Kerry, Mayo, Offaly, Sligo, Westmeath (9/32).

105. *Limnephilus hirsutus* (Pictet, 1834)

Antrim, Cavan, Clare, Cork, Donegal, Dublin, Galway, Kerry, Kildare, Mayo, Monaghan, Offaly, Sligo, Tipperary, Waterford, Westmeath, Wexford, Wicklow (18/32).

106. *Limnephilus ignavus* Mclachlan, 1865

Antrim, Cavan, Clare, Kildare, Mayo, Waterford, Westmeath, Wexford, Wicklow (9/32).

107. *Limnephilus incisus* Curtis, 1834

Antrim, Armagh, Cavan, Clare, Donegal, Galway, Kerry, Kildare, Limerick, Mayo, Monaghan, Offaly, Tipperary, Waterford, Westmeath, Wexford, Wicklow (17/32).

108. *Limnephilus lunatus* Curtis, 1834

Antrim, Armagh, Carlow, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Laois, Leitrim, Limerick, Longford, Mayo, Meath, Monaghan, Offaly, Roscommon, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (31/32).

109. *Limnephilus luridus* Curtis, 1834

Antrim, Clare, Cork, Donegal, Dublin, Galway, Kerry, Mayo, Monaghan, Offaly, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (17/32).

110. *Limnephilus marmoratus* Curtis, 1834

Antrim, Armagh, Carlow, Cavan, Clare, Cork, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Laois, Leitrim, Limerick, Longford, Mayo, Meath, Monaghan, Offaly, Roscommon, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (30/32).

111. *Limnephilus nigriceps* (Zetterstedt, 1840)

Antrim, Armagh, Cavan, Clare, Donegal, Fermanagh, Galway, Mayo, Meath, Offaly, Waterford, Westmeath (12/32).

112. *Limnephilus pati* O'Connor, 1980

Donegal, Kildare, Mayo, Tipperary, Westmeath (5/32).

113. *Limnephilus rhombicus* (Linnaeus, 1758)

Antrim, Armagh, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Leitrim, Limerick, Louth, Mayo, Offaly, Roscommon, Sligo, Tipperary, Waterford, Wexford, Wicklow (24/32).

114. *Limnephilus sparsus* Curtis, 1834

Antrim, Armagh, Carlow, Cavan, Clare, Cork, Derry, Donegal, Dublin, Fermanagh, Galway, Kerry, Kildare, Leitrim, Louth, Mayo, Meath, Monaghan, Offaly, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (26/32).

115. *Limnephilus stigma* Curtis, 1834

Antrim, Armagh, Cavan, Clare, Cork, Galway, Kerry, Mayo, Offaly, Tipperary, Waterford, Westmeath (12/32).

116. *Limnephilus tauricus* Schmid, 1964

Tipperary (1/32).

117. *Limnephilus vittatus* (Fabricius, 1798)

Antrim, Armagh, Cavan, Clare, Cork, Donegal, Dublin, Fermanagh, Galway, Kerry, Kildare, Longford, Mayo, Meath, Monaghan, Offaly, Roscommon, Sligo, Tipperary, Waterford, Westmeath, Wexford, Wicklow (23/32).

118. *Halesus digitatus* (Schrank, 1781)

Antrim, Cavan, Clare, Cork, Derry, Donegal, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Laois, Mayo, Meath, Sligo, Tipperary, Wexford, Wicklow (19/32).

119. *Halesus radiatus* (Curtis, 1834)

Antrim, Carlow, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Laois, Leitrim, Limerick, Louth, Mayo, Meath, Offaly, Roscommon, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (29/32).

120. *Hydatophylax infumatus* (McLachlan, 1865)
Cavan (1/32).
121. *Mesophylax impunctatus* McLachlan, 1884
Clare, Galway, Kerry, Mayo, Sligo, Westmeath (6/32).
122. *Micropterna lateralis* (Stephens, 1837)
Antrim, Armagh, Carlow, Cavan, Clare, Cork, Donegal, Down, Dublin, Galway, Kerry, Kildare, Kilkenny, Mayo, Roscommon, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (22/32).
123. *Micropterna sequax* McLachlan, 1875
Antrim, Armagh, Cavan, Clare, Cork, Donegal, Down, Dublin, Galway, Kerry, Kildare, Kilkenny, Mayo, Meath, Offaly, Roscommon, Tyrone, Waterford, Wexford, Wicklow (20/32).
124. *Potamophylax cingulatus* (Stephens, 1837)
Antrim, Carlow, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Galway, Kerry, Kilkenny, Leitrim, Limerick, Louth, Mayo, Meath, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (24/32).
125. *Potamophylax latipennis* (Curtis, 1834)
Antrim, Carlow, Cavan, Clare, Cork, Derry, Donegal, Dublin, Galway, Kerry, Kildare, Kilkenny, Limerick, Mayo, Meath, Offaly, Roscommon, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (24/32).
126. *Stenophylax permistus* McLachlan, 1895
Antrim, Armagh, Cavan, Clare, Cork, Donegal, Dublin, Fermanagh, Galway, Kerry, Kildare, Laois, Limerick, Louth, Mayo, Meath, Roscommon, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (24/32).

Family SERICOSTOMATIDAE

127. *Sericostoma personatum* (Spence, 1826)
Antrim, Armagh, Carlow, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Laois, Leitrim, Limerick, Longford, Louth, Mayo, Meath, Monaghan, Roscommon, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (31/32).

Family BERAEIDAE

128. *Beraea maurus* (Curtis, 1834)
Antrim, Carlow, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Kerry, Kildare, Kilkenny, Leitrim, Mayo, Sligo, Tipperary, Tyrone, Waterford, Wexford, Wicklow (21/32).

129. *Beraea pullata* (Curtis, 1834)
Armagh, Carlow, Cavan, Clare, Cork, Donegal, Down, Dublin, Fermanagh, Kerry, Kildare, Laois, Mayo, Tipperary, Waterford, Wexford, Wicklow (17/32).
130. *Beraeodes minutus* (Linnaeus, 1761)
Antrim, Cavan, Clare, Fermanagh, Galway, Kerry, Meath, Sligo, Tipperary, Tyrone, Waterford (11/32).

Family ODONTOCERIDAE

131. *Odontocerum albicorne* (Scopoli, 1763)
Antrim, Carlow, Cavan, Clare, Cork, Derry, Donegal, Dublin, Fermanagh, Galway, Kerry, Kilkenny, Leitrim, Mayo, Meath, Sligo, Tipperary, Tyrone, Waterford, Wexford, Wicklow (21/32).

Family MOLANNIDAE

132. *Molanna albicans* (Zetterstedt, 1840)
Armagh, Cavan, Fermanagh, Galway, Leitrim, Longford, Mayo, Monaghan, Roscommon, Sligo, Westmeath (11/32).

Family LEPTOCERIDAE

133. *Adicella reducta* (McLachlan, 1865)
Carlow, Clare, Cork, Donegal, Galway, Kerry, Kildare, Kilkenny, Tipperary, Waterford, Wexford, Wicklow (12/32).
134. *Athripsodes albifrons* (Linnaeus, 1758)
Antrim, Carlow, Cavan, Clare, Cork, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Laois, Leitrim, Limerick, Mayo, Meath, Monaghan, Offaly, Roscommon, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (28/32).
135. *Athripsodes aterrimus* (Stephens, 1836)
Antrim, Armagh, Cavan, Clare, Cork, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Laois, Leitrim, Longford, Louth, Mayo, Meath, Monaghan, Offaly, Roscommon, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (28/32).
136. *Athripsodes bilineatus* (Linnaeus, 1758)
Clare, Cork, Down, Dublin, Fermanagh, Galway, Kildare, Mayo, Tyrone, Westmeath (10/32).
137. *Athripsodes cinereus* (Curtis, 1834)
Antrim, Armagh, Carlow, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Laois, Leitrim, Limerick, Longford, Mayo, Meath, Monaghan, Offaly, Roscommon, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (31/32).

138. *Athripsodes commutatus* (Rostock, 1874)
Cavan, Clare, Cork, Donegal, Dublin, Galway, Kerry, Leitrim, Limerick, Mayo, Meath, Monaghan, Sligo, Westmeath (14/32).
139. *Ceraclea albimacula* (Rambur, 1842)
Antrim, Carlow, Cavan, Clare, Cork, Donegal, Galway, Kerry, Kildare, Kilkenny, Leitrim, Limerick, Mayo, Monaghan, Roscommon, Tipperary, Westmeath, Wexford, Wicklow (19/32).
140. *Ceraclea annulicornis* (Stephens, 1836)
Clare, Donegal, Galway, Kerry, Roscommon, Westmeath (6/32).
141. *Ceraclea dissimilis* (Stephens, 1836)
Antrim, Armagh, Carlow, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Galway, Kerry, Kildare, Kilkenny, Limerick, Mayo, Meath, Monaghan, Offaly, Roscommon, Tipperary, Tyrone, Westmeath, Wexford (24/32).
142. *Ceraclea fulva* (Rambur, 1842)
Antrim, Armagh, Cavan, Clare, Derry, Donegal, Fermanagh, Galway, Kerry, Leitrim, Limerick, Longford, Mayo, Monaghan, Roscommon, Tipperary, Waterford, Westmeath, Wicklow (19/32).
143. *Ceraclea nigronervosa* (Retzius, 1783)
Antrim, Armagh, Cavan, Clare, Cork, Donegal, Dublin, Fermanagh, Galway, Kerry, Mayo, Meath, Roscommon, Sligo, Tyrone, Westmeath (16/32).
144. *Ceraclea senilis* (Burmeister, 1839)
Cavan, Clare, Cork, Donegal, Dublin, Fermanagh, Galway, Kerry, Kildare, Leitrim, Longford, Louth, Mayo, Monaghan, Roscommon, Westmeath (16/32).
145. *Erotesis baltica* McLachlan, 1877
Westmeath (1/32).
146. *Leptocerus tineiformis* Curtis, 1834
Down, Dublin, Kildare, Limerick, Waterford, Wexford (6/32).
147. *Mystacides azurea* (Linnaeus, 1761)
Antrim, Armagh, Carlow, Cavan, Clare, Cork, Derry, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Kildare, Kilkenny, Leitrim, Limerick, Longford, Mayo, Meath, Monaghan, Offaly, Roscommon, Sligo, Tipperary, Tyrone, Waterford, Westmeath, Wexford, Wicklow (30/32).
148. *Mystacides longicornis* (Linnaeus, 1758)
Antrim, Armagh, Cavan, Clare, Cork, Derry, Donegal, Dublin, Fermanagh, Galway, Kerry, Kildare, Leitrim, Limerick, Longford, Mayo, Meath, Monaghan, Offaly, Roscommon, Sligo, Tipperary, Waterford, Westmeath, Wexford, Wicklow (26/32).
149. *Oecetis furva* (Rambur, 1834)
Antrim, Cavan, Clare, Cork, Donegal, Fermanagh, Galway, Kerry, Limerick, Longford, Mayo, Monaghan, Offaly, Waterford, Westmeath (15/32).

150. *Oecetis lacustris* (Pictet, 1834)
Antrim, Armagh, Cavan, Clare, Cork, Fermanagh, Galway, Kerry, Kildare, Leitrim, Longford, Mayo, Monaghan, Roscommon, Waterford, Westmeath, Wexford, Wicklow (18/32).
151. *Oecetis notata* (Rambur, 1842)
Dublin, Kerry, Kildare, Kilkenny, Mayo, Meath, Tipperary, Waterford, Wexford (9/32).
152. *Oecetis ochracea* (Curtis, 1825)
Antrim, Armagh, Cavan, Clare, Cork, Donegal, Down, Dublin, Fermanagh, Galway, Kerry, Limerick, Mayo, Monaghan, Offaly, Roscommon, Waterford, Westmeath (18/32).
153. *Oecetis testacea* Curtis, 1825
Carlow, Cavan, Clare, Cork, Donegal, Galway, Kerry, Limerick, Mayo, Westmeath, Wexford, Wicklow (12/32).
154. *Setodes argentipunctellus* McLachlan, 1877
Kerry (1/32).
155. *Triaenodes bicolor* (Curtis, 1834)
Antrim, Armagh, Cavan, Clare, Cork, Donegal, Dublin, Fermanagh, Galway, Kerry, Longford, Mayo, Monaghan, Offaly, Roscommon, Sligo, Tipperary, Waterford, Westmeath, Wexford, Wicklow (21/32).
156. *Ylodes reuteri* (McLachlan, 1880)
Waterford, Wexford (2/32).

PLATE 8. *Apatania auricula* (map: Figure 84). Photograph © Esko Viitanen.

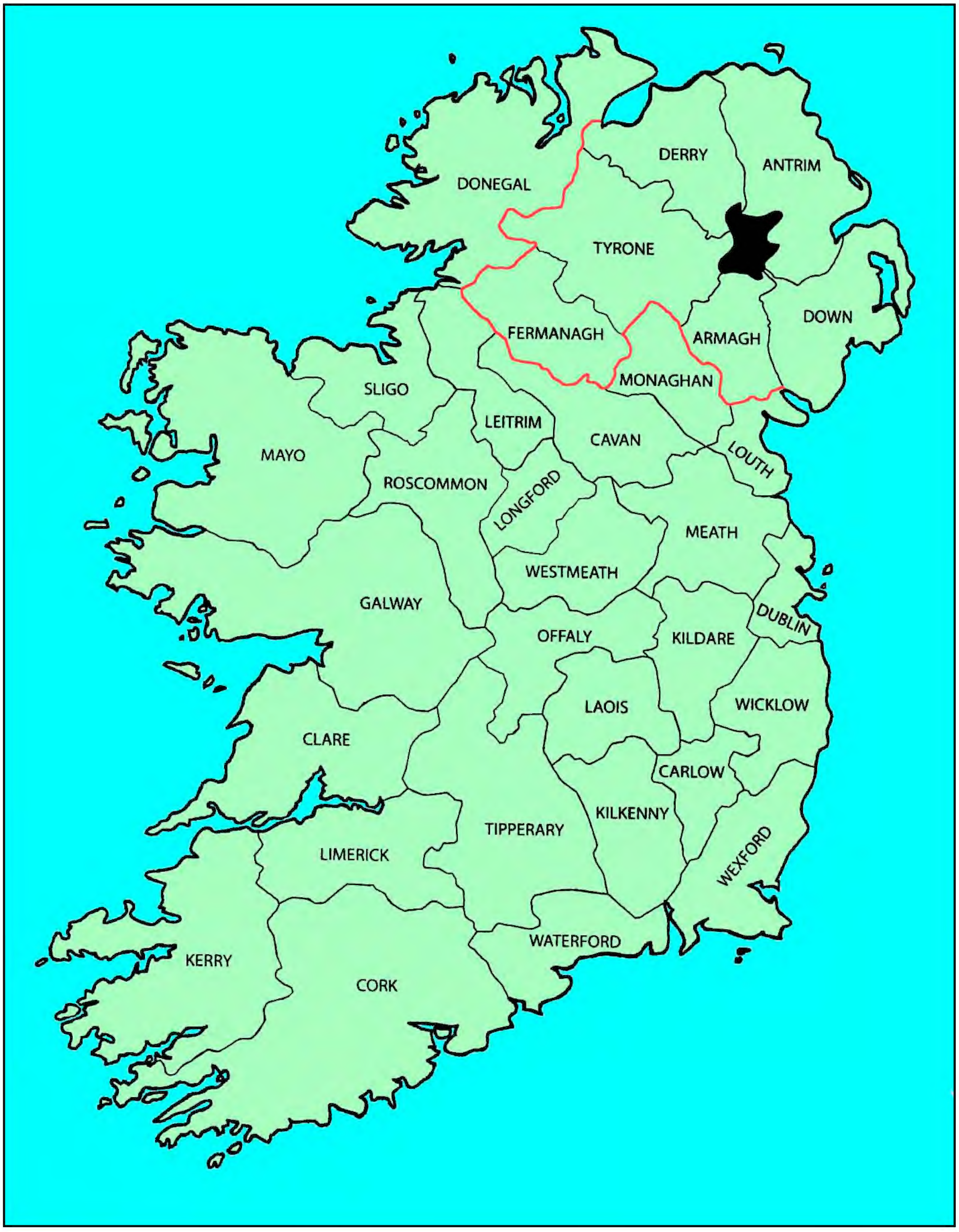


FIGURE 158. The counties of Ireland. The Border between Northern Ireland and the Republic of Ireland is shown in red.

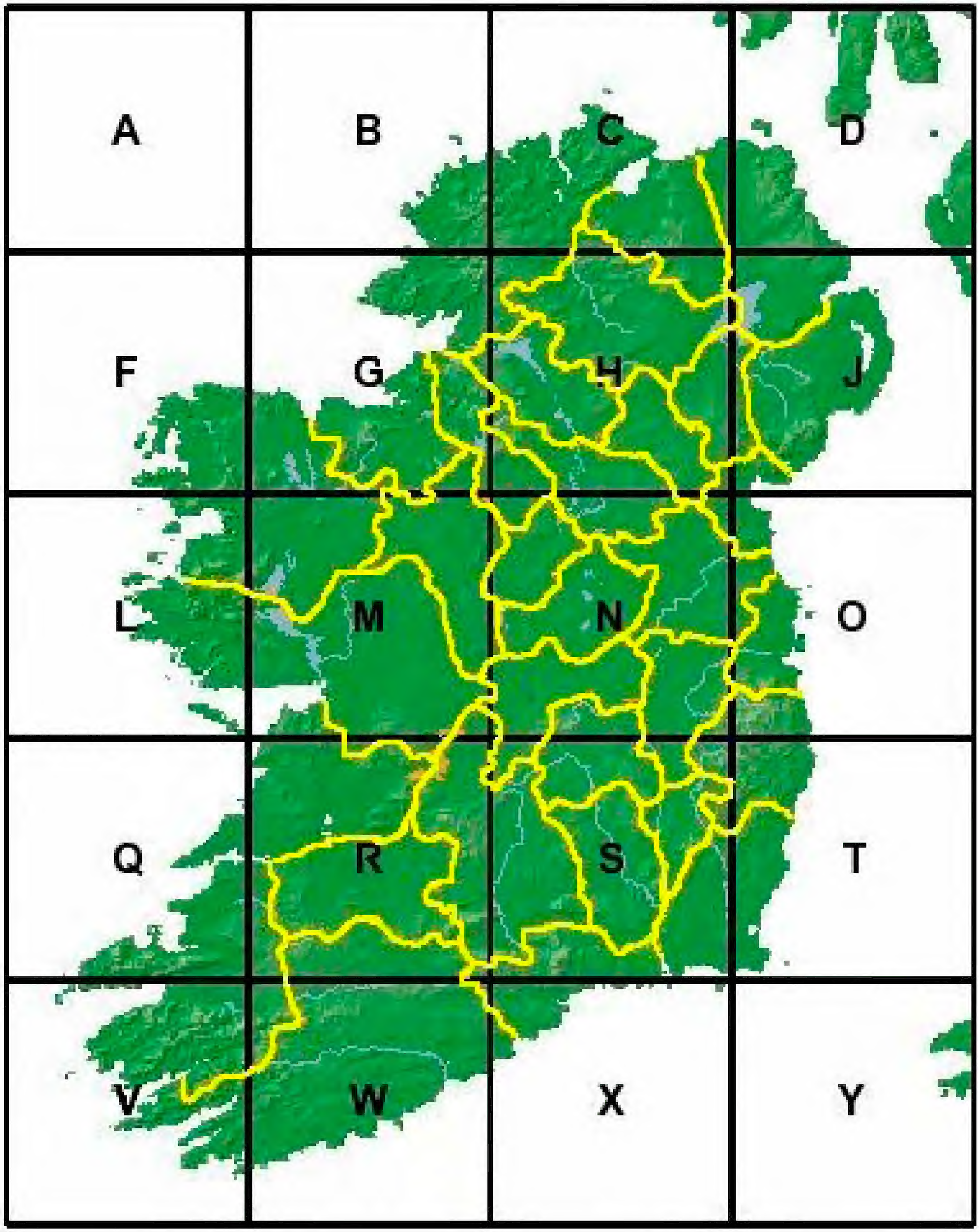


FIGURE 159. The Irish counties superimposed on the National Grid.

PLATE 9. Above. *Phryganea bipunctata* (map: Figure 75). Below. *Limnephilus vittatus* (map: Figure 117). Photographs © Cathal McNaughton.

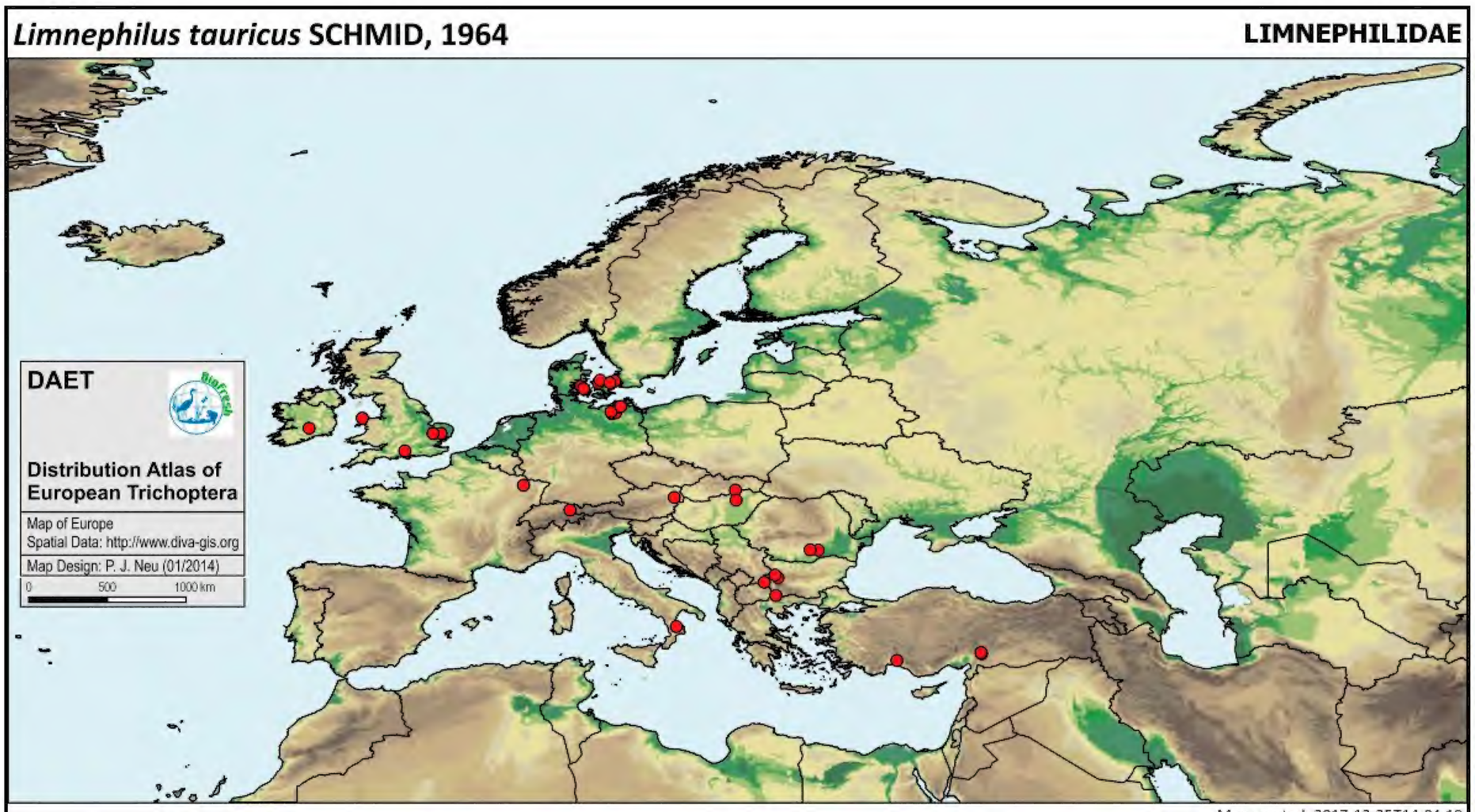
APPENDIX 2. European distributions.

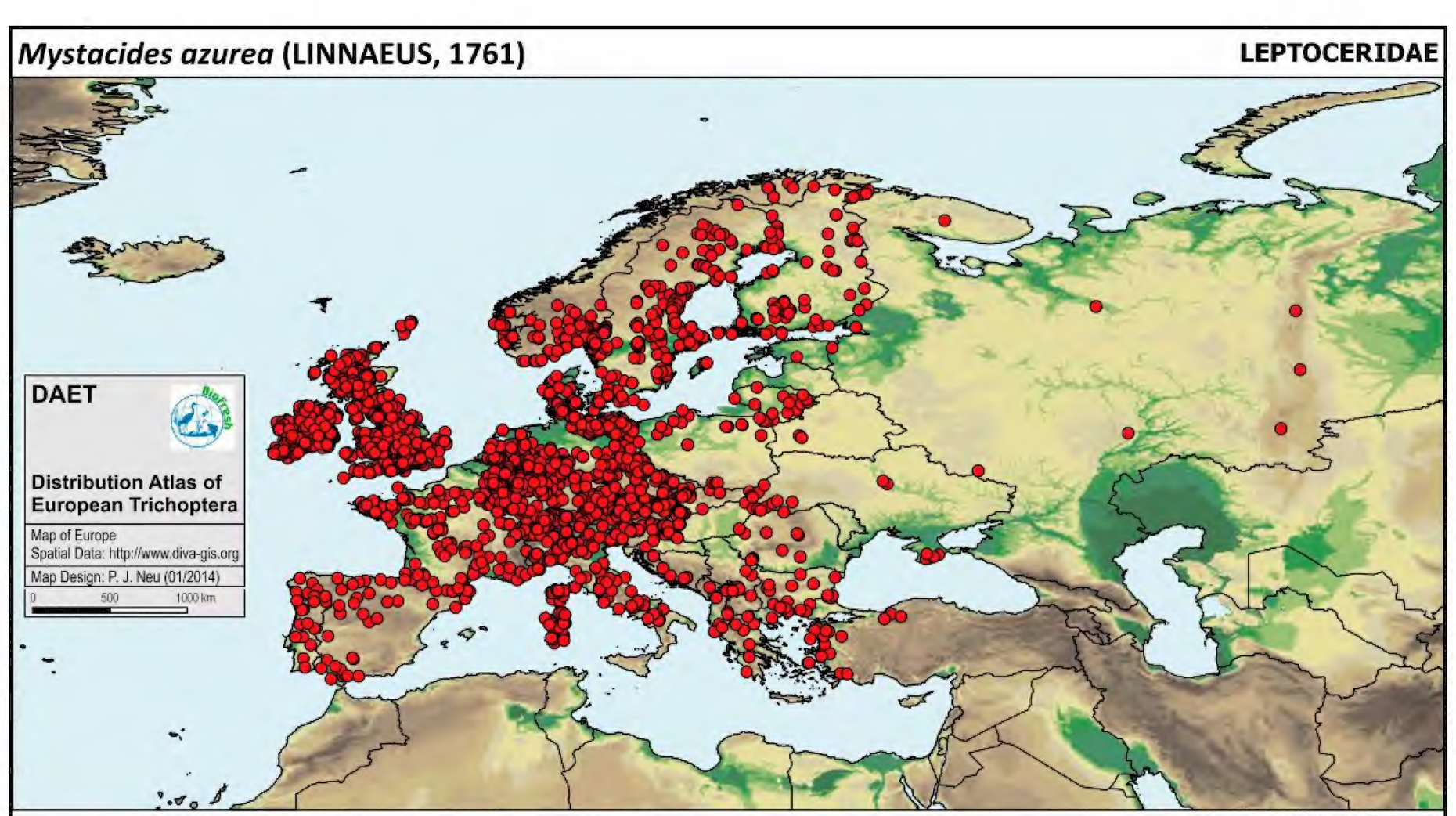
All the distribution data from O'Connor (2015) were incorporated into the *Distribution Atlas of European Trichoptera* (DAET) (Neu *et al.*, 2018) along with some records from Addendum 1. The foundation for the *Distribution Atlas of European Trichoptera* was laid within the BioFresh research project, funded by the EU from 2010 to 2014. Since 2011, more than 630,000 occurrence records (about 450,000 adult data) of European caddisflies contributed by 83 Trichoptera experts and the authors of the *Atlas* (DAET Consortium) have been compiled. The volume contains 1,583 distribution maps, a systematic list and a species index which is also a table of map contents. Point records of caddisflies, plotted on latitude and longitude, are illustrated on the maps in the *Atlas*. For the first time, a comprehensive overview of the distribution patterns of European Trichoptera families, species and sub-species is provided. The data were collected at more than 55,000 different sites in 50 countries covering the European continent. The temporal range is from 1793 to 2017. These maps serve as a valuable base for future analyses, conservation and management priorities.

Because of this spendid volume, it is now possible to precisely place the Irish caddisfly fauna in a pan-European context. It can be easily ascertained from the relevant distribution map of a particular Irish species, whether that caddisfly is rare or common in the rest of Europe. Examples are shown in Figs 160-161.

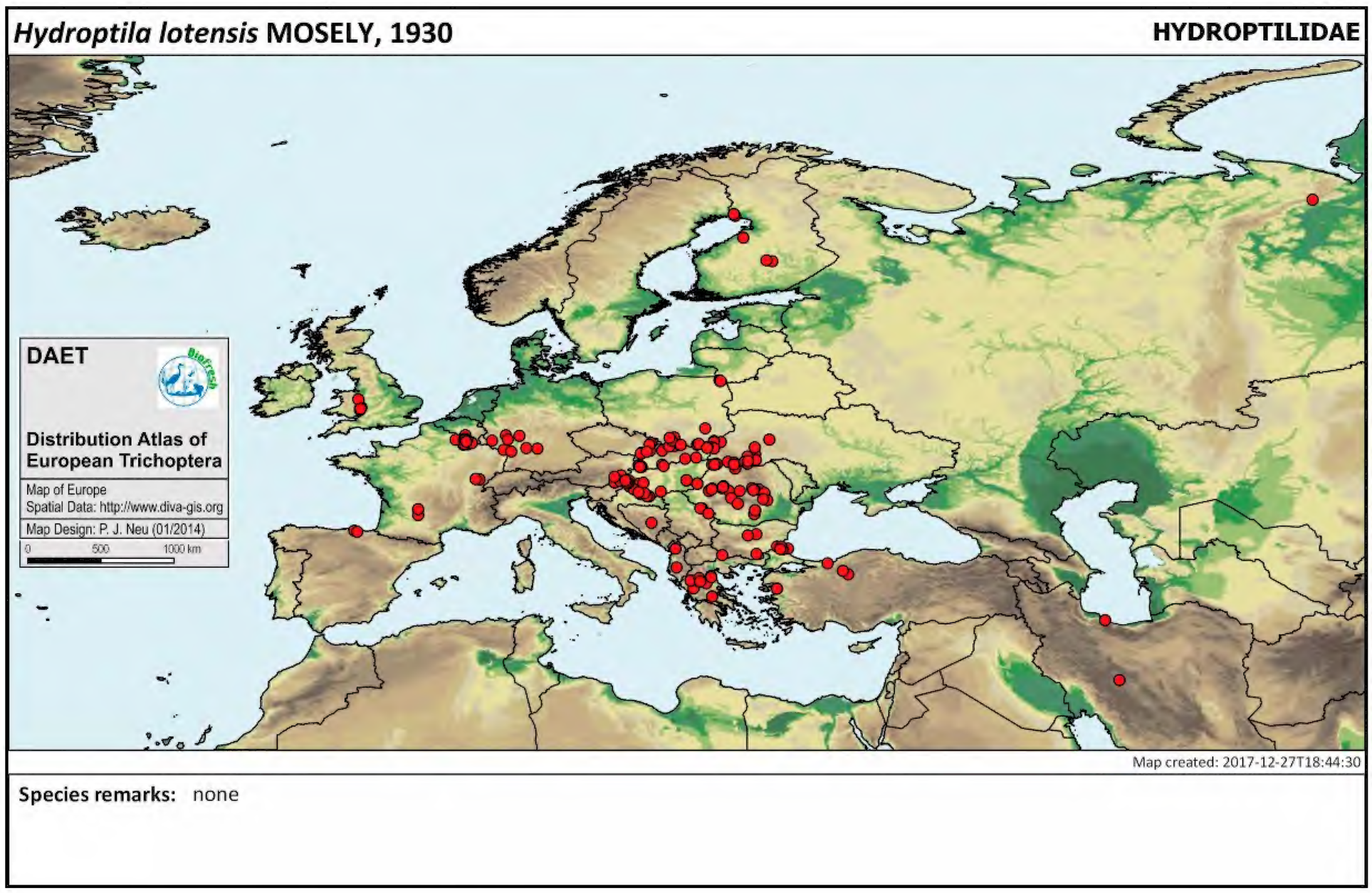
Trichostegia minor and *Limnephilus borealis* were added to the Irish fauna in time for records to be included in the DAET. However as the remaining five new Irish species were discovered after publication, their European distributions are shown in Figs 162-166.

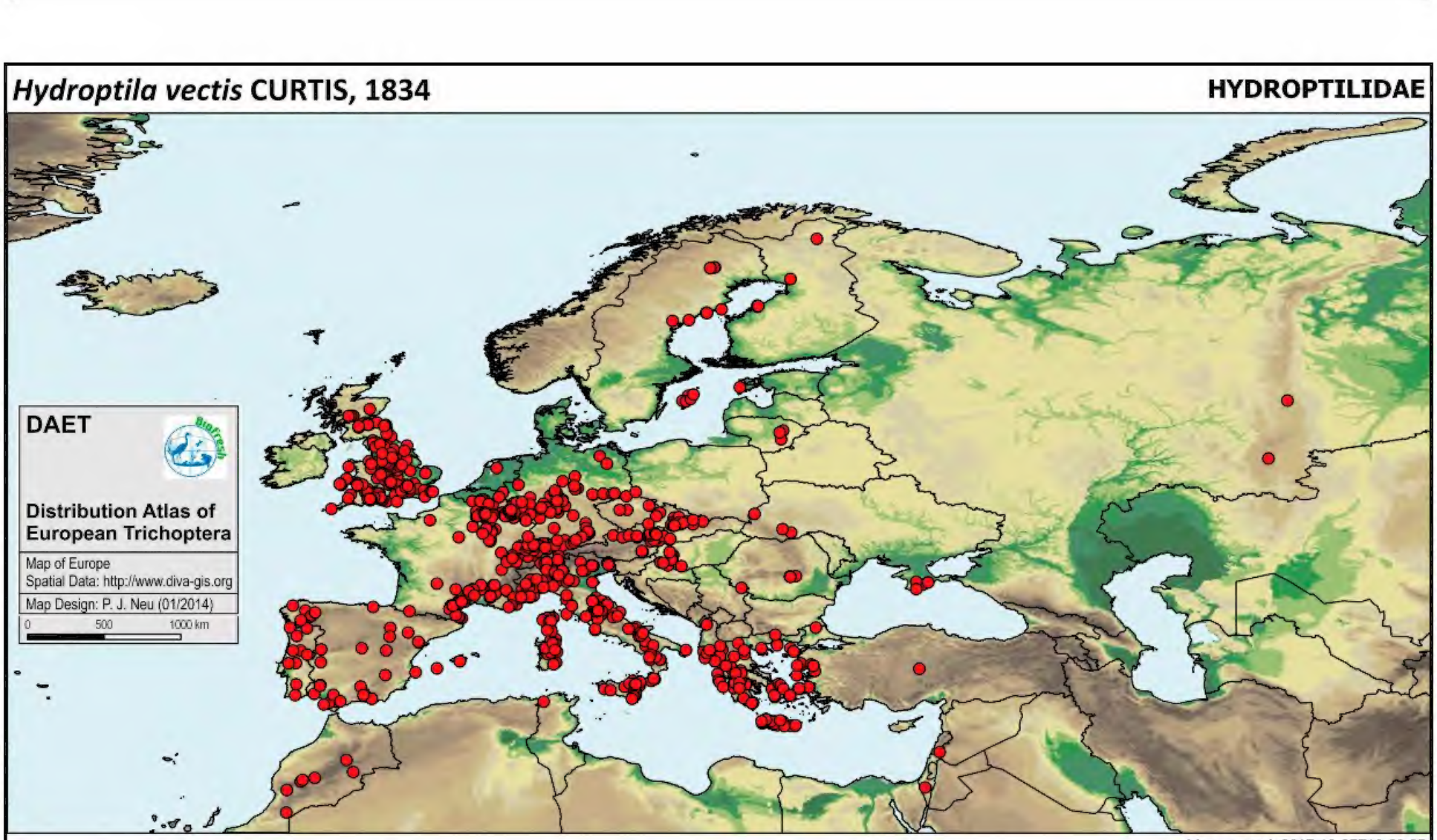
PLATE 10. *Trichostegia minor* (map: Figure 77). Photograph © Cathal McNaughton.



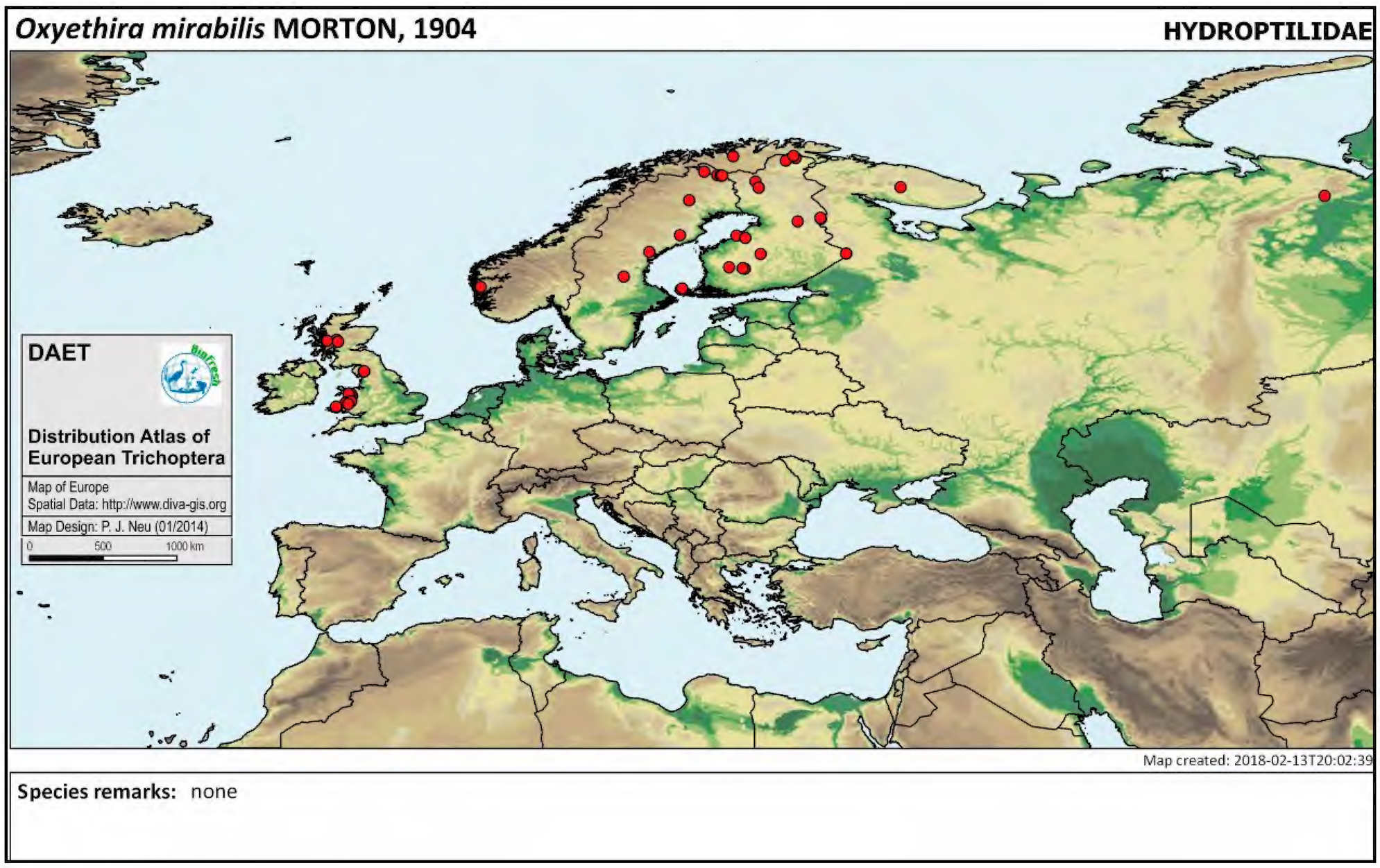


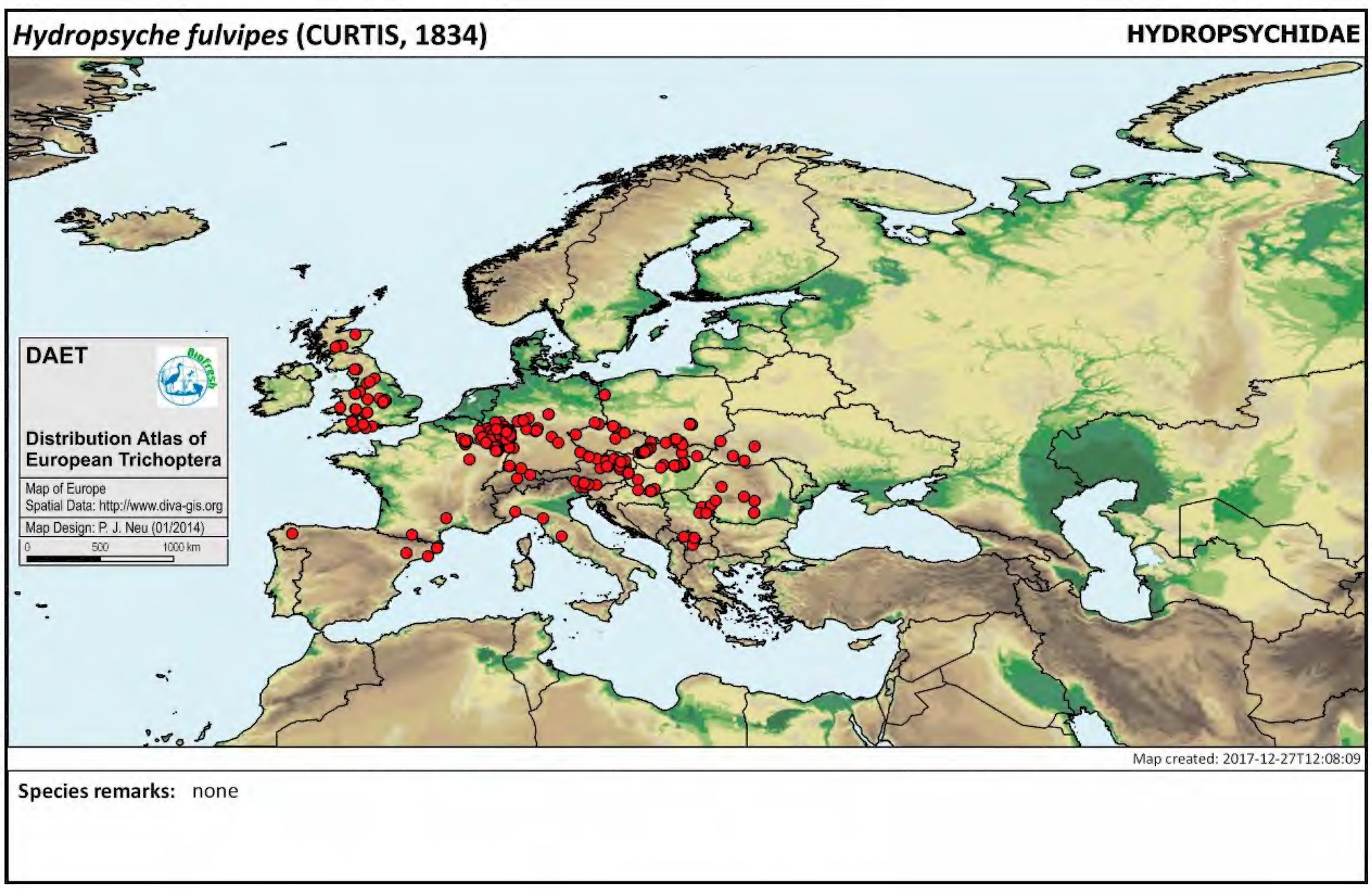
FIGURES 160-161. The European distributions of *Limnephilus tauricus* and *Mystacides azurea* in DAET.





FIGURES 162-163. The European distributions of *Hydroptila lotensis* and *H. vectis* in DAET. For the Irish distributions, see maps: Figures 14 and 23 respectively.





FIGURES 164-165. The European distributions of *Oxyethira mirabilis* and *Hydropsyche fulvipes* in DAET. For the Irish distributions, see maps: Figures 31 and 66 respectively.

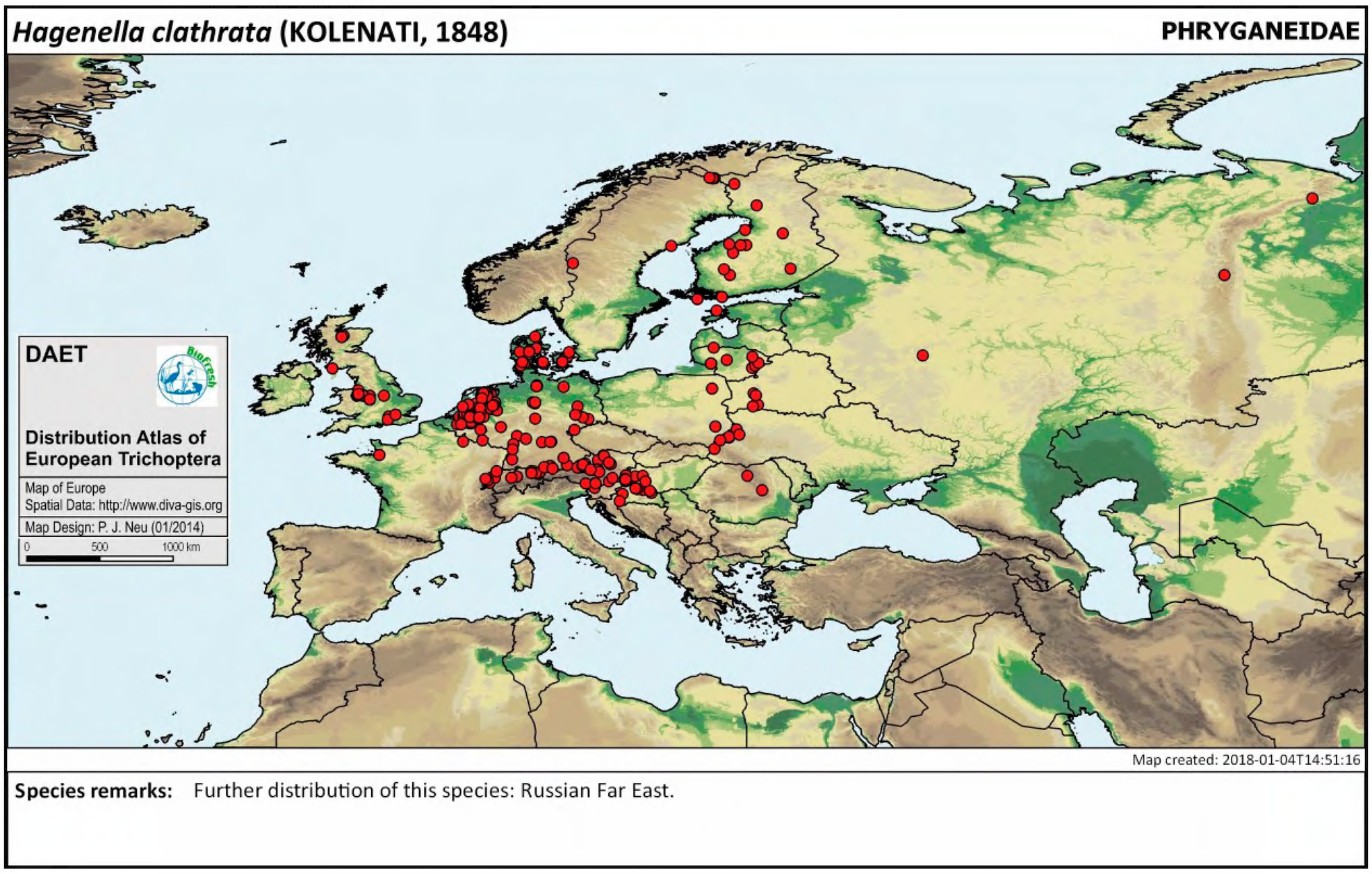


FIGURE 166. The European distribution of *Hagenella clathrata* in DAET. For the Irish distribution, see map: Figure 73.

PLATE 11. *Sericostoma personatum* (Spence, 1826) (female) (map: Figure 127). Photograph © Cathal McNaughton.

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